EXHIBIT A

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

AYLUS NETWORKS, INC.,
Patent Owner

U.S. Patent No. RE44,412
Filing Date: September 14, 2011
Issue Date: August 6, 2013
Title: Digital Home Networks Having A Control Point Located On A Wide Area Network

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Inter Partes Review No.: (Unassigned)

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. RE44,412 UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. §§ 42.1-100, ET SEQ.

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EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. RE44,412
1002	Complaint for Patent Infringement against Apple Inc.
1003	*Aylus Networks, Inc. v. Apple Inc*. Proof of Service
1004	File history of U.S. Patent No. RE44,412
1005	File history of U.S. Patent No. 7,724,753
1006	Exhibit A to Patent Owner's Disclosure of Asserted Claims and Preliminary Infringement Contentions.
1007	Joint Claim Construction and Prehearing Statement
1008	Jeronimo, Michael, *UPnP Design By Example: A Software Developer's Guide to Universal Plug and Play* (Intel Press 2003) (hereinafter "UPnP Design")
1009	Image of CD-ROM accompanying *UPnP Design* book.
1010	*UPnP Design*, "UPnP AV Architecture:0.83" (Jun. 12, 2002) (file from CD-ROM accompanying book).
1011	*UPnP Design*, "MediaServer:1 Device Template Version 1.01" (Jun. 25, 2002) (file from CD-ROM accompanying book).
1012	*UPnP Design*, "MediaRenderer:1 Device Template Version 1.01" (Jun. 25, 2002) (file from CD-ROM accompanying book).
1013	*UPnP Design*, "AVTransport:1 Service Template Version 1.01" (Jun. 25, 2002) (file from CD-ROM accompanying book).
1014	*UPnP Design*, "RenderingControl:1 Service Template Version 1.01" (Jun. 25, 2002) (file from CD-ROM accompanying book).

1015	*UPnP Design*, "ConnectionManager:1 Service Template Version 1.01" (Jun. 25, 2002) (file from CD-ROM accompanying book).
1016	*UPnP Design*, "Introduction to Device Relay" (available at installed Intel_Tools_4UT_v1080.exe, ToolsHelp.chm file, "About Device Relay" subtopic) (Nov. 26, 2002) (file from CD-ROM accompanying book).
1017	*UPnP Design*, "Readme.htm" (available at installed Intel_Tools_4UT_v1080.exe, Readme.htm file) (Dec. 16, 2002) (file from CD-ROM accompanying book).
1018	Amazon.com web page reporting publication date of May 1, 2003 for *UPnP Design*.
1019	U.S. Patent Application Publication No. 2006/0143295 to Costa-Requena ("Costa-Requena").
1020	U.S. Patent Application Publication No. 2006/0112192 to Stewart, et al. ("Stewart").
1021	UPnP Forum, "UPnP Device Architecture 1.0, version 1.0.1" (Dec. 2, 2003).
1022	Declaration of expert Dr. Ketan Mayer-Patel.

Real party in interest Apple Inc. ("Apple" or "Petitioner") hereby petitions for *inter partes* review of U.S. Patent No. RE44,412 (the "'412 patent"). Ex. 1001.

I. COMPLIANCE WITH FORMAL REQUIREMENTS

A. Mandatory Notices Under 37 C.F.R. §§ 42.8(b)(1)-(4)

1. Real Party-In-Interest

Apple is the real party-in-interest.

2. Related Matters

The '412 patent is subject to the following civil action: *Aylus Networks, Inc. v. Apple, Inc.*, No. 3:13-CV-4700-EMC (N.D. Cal.). Exs. 1002-1003. Petitioner is concurrently filing a second petition for *inter partes* review of the '412 patent.

3. Lead and Backup Counsel

Lead Counsel	Backup Counsel
James M. Heintz Reg. No. 41,828 DLA Piper LLP (US) 11911 Freedom Drive, Suite 300 Reston, VA 20190 Apple-Aylus-IPR@dlapiper.com Phone: 703-773-4148 Fax: 703-773-5200	Robert Buergi Reg. No. 58,125 DLA Piper LLP (US) 2000 University Ave East Palo Alto, CA 94303 robert.buergi@dlapiper.com Phone: 650-833-2407 Fax: 650-687-1144

4. Service Information

Service information for lead and back-up counsel is provided in the designation of lead and back-up counsel above.

B. Proof of Service on the Patent Owner

As identified in the attached Certificate of Service, a copy of this Petition in its entirety is being served to the Patent Owner's attorney of record at the address listed in the USPTO's records by overnight courier pursuant to 37 C.F.R. § 42.6.

C. Power of Attorney

Powers of attorney are being filed with designation of counsel in accordance with 37 C.F.R. § 41.10(b).

D. Standing

In accordance with 37 C.F.R. §42.104(a), Petitioner certifies that the '412 patent is available for *inter partes* review and that Petitioner is not barred or estopped from requesting an *inter partes* review challenging the patent claims on the grounds identified in this Petition.

E. Fees

The undersigned authorizes the Director to charge the fee specified by 37 C.F.R. § 42.15(a) and any additional fees that might be due in connection with this Petition to Deposit Account No. 50-1442.

II. STATEMENT OF PRECISE RELIEF REQUESTED

In accordance with 35 U.S.C. § 311, Petitioner requests cancelation of

claims 1-33 of the '412 patent in view of the following grounds:

A. Claims 1-33 are rendered obvious under 35 U.S.C. § 103(a) (pre-AIA) by *UPnP Design By Example: A Software Developer's Guide to Universal Plug and Play* (Intel Press 2003) ("UPnP Design") (Exs. 1008-1017).

B. Claims 1-33 are rendered obvious under 35 U.S.C. § 103(a) (pre-AIA) by UPnP Design in light of U.S. Patent Application Publication No. 2006/0143295 to Costa-Requena ("Costa-Requena") (Ex. 1019).

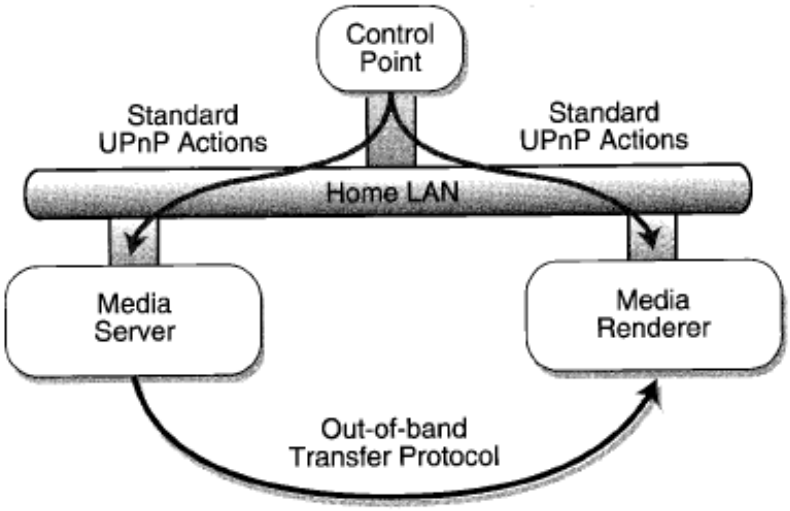
C. Claims 1-33 are rendered obvious under 35 U.S.C. § 103(a) (pre-AIA) by UPnP Design in light of U.S. Patent Application Publication No. 2006/0112192 to Stewart, et al. ("Stewart") (Ex. 1020).

III. FULL STATEMENT OF REASONS FOR REQUESTED RELIEF

A. Technology Background

In 1999, Microsoft Corporation introduced the Universal Plug and Play ("UPnP") initiative. Ex. 1008 at 8. UPnP is a protocol and standard "designed to connect network devices such as PCs, entertainment equipment, and intelligent devices." *Id*. at 5. Later, a cross-industry group called the UPnP Forum was created to guide the creation of UPnP standards. *Id*. By 2003, the UPnP Forum included more than 500 companies, and it had published various UPnP specifications. *Id*. at 5, 361; Exhibits 1010-1015 (UPnP specifications).

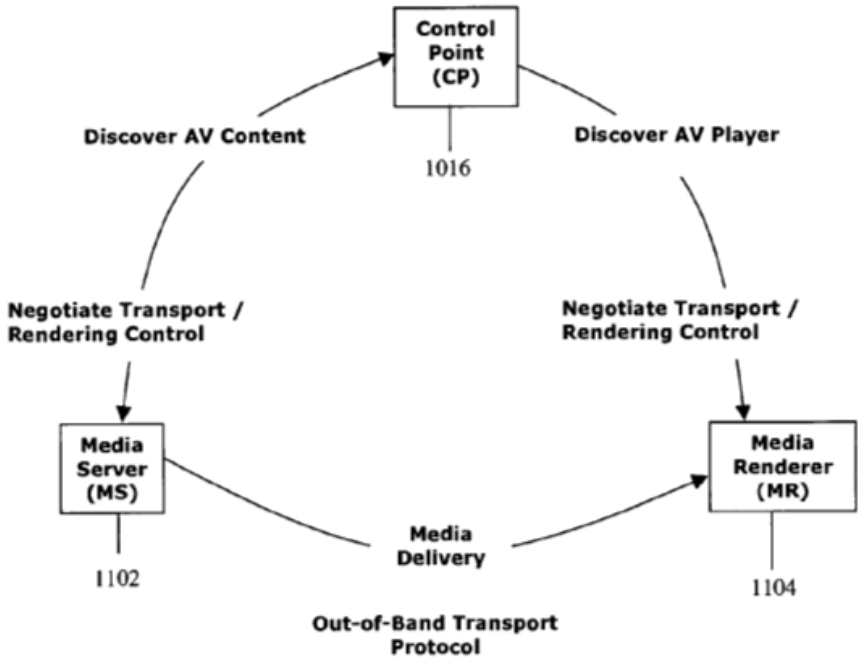
UPnP includes an architecture for distributing digital audio and video called the "UPnP Audio/Video" architecture, or "UPnP AV" architecture for short. Ex. 1008 at 359; Ex. 1010 at 3. The basic UPnP AV architecture uses a trio of interacting devices, shown below.



Ex. 1008 at 350. The Media Server is a device that stores content, and the Media Renderer is a device that renders the content. *Id*. The Control Point discovers Media Servers and Media Renderers on the network and, using UPnP actions, connects the Media Server to the Media Renderer such that the Media Server can stream content to the Media Renderer. *Id*. Although the Control Point coordinates and synchronizes the behavior of both devices, the devices themselves interact with each other using a non-UPnP ("out-of-band") communication protocol. Ex. 1010 at 4.

B. Summary of the '412 Patent

The '412 patent is directed to delivering media content from a media server to a media renderer. The '412 patent specification discloses a UPnP AV architecture that includes a media server ("MS"), media renderer ("MR"), and control point ("CP"), as shown in the patent's Figure 11:



Ex. 1001 at 10:42-43, 16:36-39, Fig. 11. The MS could be a video player, the MR could be an LCD display, and the CP could be an (advanced) "remote control unit." *Id*. at 16:59-61.

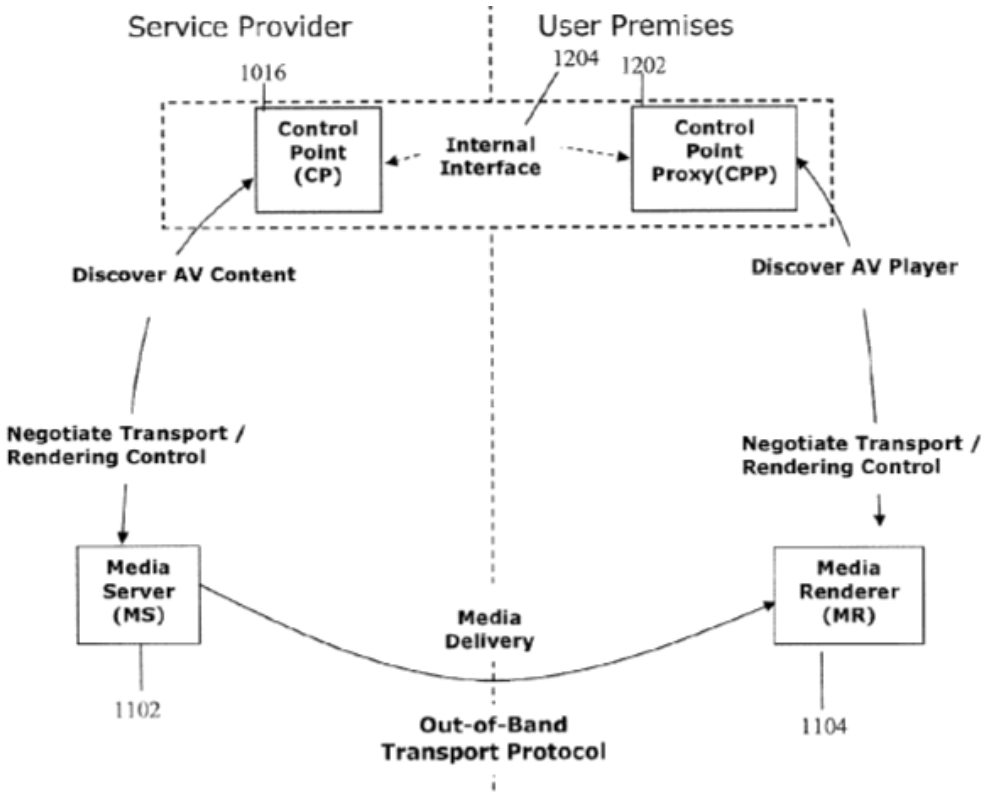
The UPnP framework allows the CP to discover the existence of the MS and MR. Ex. 1001 at 21:5-43. In the UPnP framework, a UPnP device added to a network advertises its presence on the network. *Id*. at 21:15-18. When a CP is added to the network, the CP may generate a multicast search for devices on the

network. *Id*. at 21:21-23. UPnP devices may also provide descriptions about themselves and their services to other UPnP devices. *Id*. at 21:23-38.

The CP queries the MS for a directory of content and presents that content to a user on a display (MR), allowing the user to select content for rendering. *Id*. at 16:61-63. Upon such selection of content, the CP negotiates content delivery with the MS and instructs the MS to deliver content to the MR. *Id*. at 13:64-66. The CP also negotiates media rendering with the MR, instructing the MR to start expecting content from the MS and to present such. *Id*. at 14:2-5.

The MS then delivers media content to the MR. Ex. 1001 at 13:48-49, Fig. 11. Direct communication between the MS and the MR is "out of band" because the MS and MR use for such communication a protocol other than UPnP, such as RTSP/RTP. *Id*. at 16:55-58.

The '412 patent also describes an extension of the UPnP architecture from Fig. 11, shown in Fig. 12:



In this architecture, the CP is located in a wide area network and a Control Point Proxy ("CPP") is added to the user premises. Ex. 1001 at 17:7-17, 17:25-26. The CP communicates with the MS, the CPP communicates with the MR, and the CP and CPP communicate with each other. *Id*. at 17:12-17, 17:20-24, 17:45-47. The CPP resides in a "handset" or User Entity ("UE"), not shown in Figure 12. *Id*. at 2:65-66, 17:52. The handset may have VCR-type controls for controlling the presentation of the media content. *Id*. at 17:35-37.

Moving the control point into the wide area network enables a user to connect to services provided by media servers that are not located in the home, such as foreign television stations. *Id*. at 17:25-27.

C. The ’412 Patent Prosecution History

The ’412 patent is a reissue of U.S. Patent No. 7,724,753 (the “’753 patent”), which has a filing date of March 8, 2006 and an issue date of March 25, 2010. In the reissue proceedings, the Patent Owner added claims 20 to 33 and modified existing claim 1 in two places to refer to “the wide area network” instead of “the network.” Ex. 1001 at 24:36-27:6. The ’412 patent’s file history is attached as Exhibit 1004 and the ’753 patent’s file history is attached as Exhibit 1005.

D. Person of Ordinary Skill in the Art

A person of ordinary skill in the art at the time of the alleged invention of the ’412 patent would have had a bachelor’s degree in computer science plus at least two years of experience in software engineering, or the equivalent. Ex. 1022 (Declaration of Dr. Ketan Mayer-Patel (“Mayer-Patel Decl.”)) at ¶ 42.

E. Claim Construction

In accordance with 37 C.F.R. § 42.104(b)(3), Petitioner provides the following statement regarding construction of the ’412 patent claims. A claim subject to *inter partes* review receives the “broadest reasonable interpretation” (“BRI”) in light of the specification. 37 C.F.R. § 42.100(b).

In addition, in the district court action referenced above, the Patent Owner has disclosed how it believes that certain terms of the claims of the ’412 patent should be construed in its infringement contentions (Ex. 1006) and in its proposed constructions of certain claim terms (Ex. 1007). For the purposes of this

proceeding, Petitioner respectfully requests that the Patent Owner be held to constructions at least as broad as those set forth by the Patent Owner.

Specifically, the claim term "serving node" (claims 1, 7, 11, 15, 20, 27, and 32) should be construed to mean "a serving element in the wide area network." Ex. 1007 (Joint Claim Construction Statement) at 15.

The claim term "control point (CP) logic" (claims 1, 4, 10, 12, 15, 20, 23, and 27) should be construed to mean "logic used to control UPnP devices or transmit UPnP control messages." Mayer-Patel Decl. at ¶ 46; Ex. 1001 at 13:43-14:7; 16:14-17, 16:54-17:24, Figs. 11-12 (describing the Control Point controlling UPnP devices and transmitting UPnP control messages); Ex. 1010 at 3-4, 6, 9-10 (same); *see also* Ex. 1007 at 27 (Patent Owner's proposed construction, "control point executable instruction(s)").

The claim term "control point proxy (CPP) logic"/"control point proxy logic" (claims 1, 20, and 27) should be construed to mean "logic used to communicate with UPnP devices using the UPnP protocol or to transmit UPnP control messages." Mayer-Patel Decl. at ¶ 46; Ex. 1001 at 16:26-36, 17:7-24, 17:33-63, Fig. 12 (describing the "CP Proxy (CPP)" communicating with UPnP devices using the UPnP protocol and transmitting UPnP control messages).

The claim term "media server" (claims 1, 2, 4, 7, 9-10, 15-21, 23-27, 29, 31) should be construed to mean "audiovisual content server." Ex. 1007 at 31.

The claim term "media renderer" (claims 1, 2, 4, 6-10, 14-21, 23-29, 31) should be construed to mean "audiovisual content renderer." Ex. 1007 at 29.

The claim terms "determine/determining a network context" (claims 1, 20, and 27) should be construed to mean "determine a network characteristic, such as connectivity to a network." Ex. 1006 at 34 ("*e.g.*, connectivity to the internet").

The claim term "resides in the signaling domain" (claims 1, 20, and 27) should be construed to mean "sends or receives signaling messages or signaling traffic." Mayer-Patel Decl. at ¶ 46; Ex. 1001 at 1:57-59, 2:49-52, 14:16-40, 15:50-67, 18:2-5 (describing signaling traffic and the signaling domain); *see also* Ex. 1007 at 25 (Patent Owner's construction, "operates in the signaling domain.");

The claim term "serves as a … proxy" (claims 1, 20, and 27) should be construed to mean "acts as an authorized actor." Ex. 1007 at 18, 20.

The claim term "negotiate media content delivery between the MS and the MR" (claims 1, 2, 4, 20-21, 23, and 27) should be construed to mean "coordinate transport of media content from the MS to the MR." *See* Ex. 1007 at 22 (Patent Owner's construction, "coordinate transport of audiovisual content from the MS to the MR").

The claim terms "cooperate with [network control point/the serving node] CP logic" (claims 1, 20, and 27) should be construed to mean "work with the CP logic to coordinate transport of media content from the MS to the MR." *See* Ex.

1007 at 23 (Patent Owner's construction, "work with CP logic to coordinate transport of audiovisual content from the MS to the MR").

The claim terms "VCR controls" and "video play controls" (claims 1, 15, 20, and 27) should be construed to mean "controls for display of video content (*e.g.*, play, pause, rewind, stop buttons)." Ex. 1007 at 10, 12.

The claim terms "in the wide area network" and "of the wide area network" (claims 1, 20) should be construed to mean "using the wide area network or accessible via the wide area network." Ex. 1006 at 18-25; Mayer-Patel Decl. at ¶ 46.

The claim term "personal agent logic" (claim 27) should be construed to mean "executable instruction(s) on the UE." Ex. 1007 at 33.

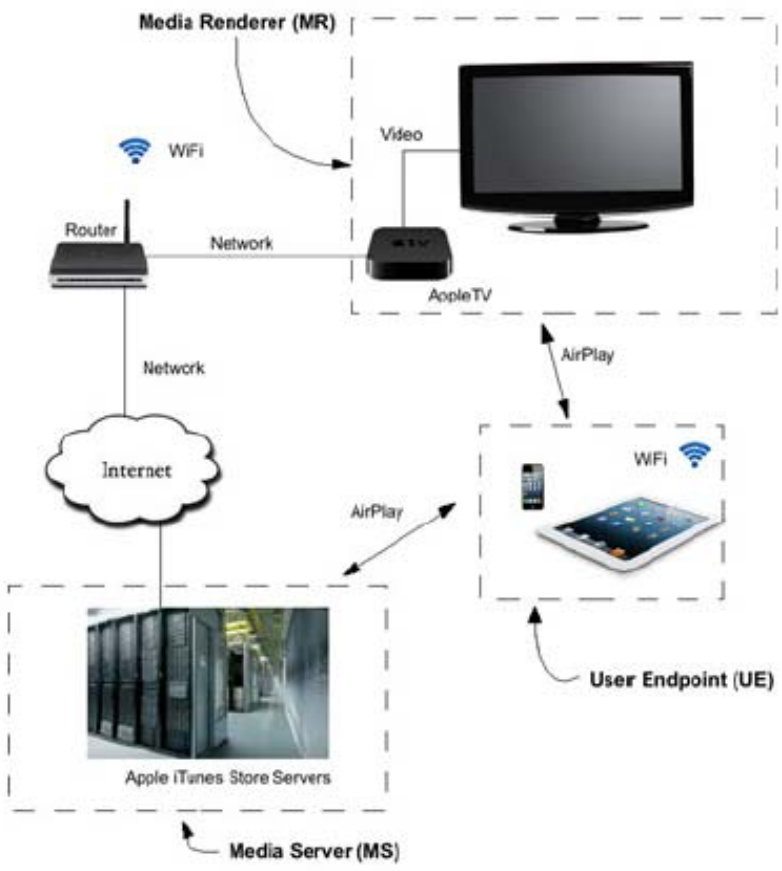
The claim term "handset" (claims 5-6, 13-14, and 33) should be construed to mean "a wireless communication device that supports radio access technology (*e.g.*, Wi-Fi, GSM, CDMA)." Ex. 1007 at 13.

Because the BRI standard is different from that used in district court litigation, *see In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 1369 (Fed. Cir. 2004), the interpretation of the claims presented either implicitly or explicitly herein should not be viewed as constituting Petitioner's own interpretation and/or construction of such claims for the purposes of the underlying litigation. Instead, such constructions in this proceeding should be viewed only as constituting an

interpretation of the claims under the "broadest reasonable construction" standard and/or under the Patent Owner's infringement allegations in the underlying litigation. Indeed, Petitioner has presented in the underlying litigation a different interpretation of one or more of the '412 patent claim terms.

F. Products Accused of Infringing the '412 Patent

Patent Owner alleges that use of Petitioner's Apple TV product with Petitioner's AirPlay software infringes claims 1-3, 5, 8-9, 15, 20-22, 27, 29-30, and 33 of the '412 patent. Ex. 1006. As shown in the figure below, Patent Owner alleges that Petitioner's iTunes Store is a media server (MS) and Petitioner's Apple TV product is a media renderer (MR). *Id*. at 3-4. Patent Owner alleges that the iTunes Store contains control point (CP) logic and that Petitioner's iPhone and iPad products are user endpoints (UEs) with control point proxy (CPP) logic. *Id*. at 18-19, 25-26.



In certain circumstances, Petitioner's AirPlay software allows a user of an iPhone or iPad to use the iPhone or iPad to select video from the iTunes Store to stream to an Apple TV.

G. Ground 1: Claims 1-33 Are Obvious Under 35 U.S.C. § 103(a) (pre-AIA) In Light Of UPnP Design.

UPnP Design by Example: A Software Developer's Guide to Universal Plug and Play, by Michael Jeronimo ("UPnP Design"), is a book with included CD that contains UPnP specifications from the UPnP Forum, a consortium of companies that work together to define the UPnP protocol. UPnP Design bears a copyright date of 2003 and has a reported publication date of May 1, 2003. Ex.

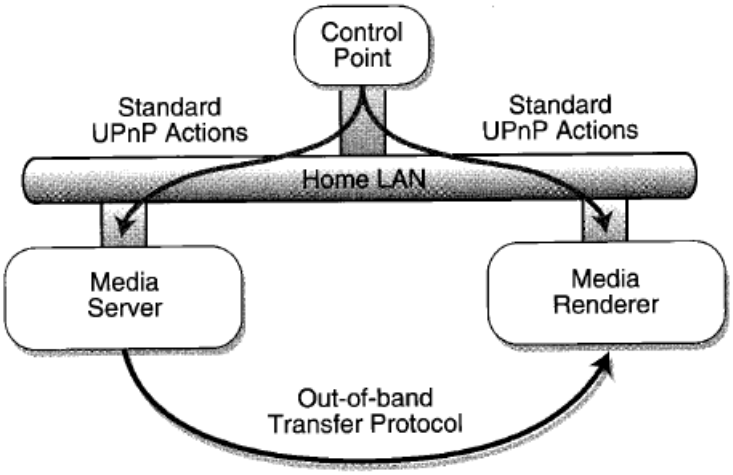
1008 at p. 0003 (“Copyright © 2003”); Ex. 1018 at 2 (“Publisher: Intel Press (May 1, 2003)”). Accordingly, UPnP Design is prior art to the ’412 patent at least under 35 U.S.C. § 102(b) (pre-AIA) because UPnP Design pre-dates the earliest possible priority date on the face of the ’412 patent (Jun. 24, 2005).[1] The CD includes the following UPnP specifications and documents referenced in the chart below:

1. “UPnP AV Architecture:0.83” (Jun. 12, 2002) (Ex. 1010).
2. “MediaServer:1 Device Template Version 1.01” (Jun. 25, 2002) (Ex. 1011).
3. “MediaRenderer:1 Device Template Version 1.01” (Jun. 25, 2002) (Ex. 1012).
4. “AVTransport:1 Service Template Version 1.01” (Jun. 25, 2002) (Ex. 1013).
5. “RenderingControl:1 Service Template Version 1.01” (June. 25, 2002) (Ex. 1014).
6. “ConnectionManager:1 Service Template Version 1.01” (Jun. 25, 2002) (Ex. 1015).
7. “Introduction to Device Relay” (available at installed Intel_Tools_4UT_v1080.exe, ToolsHelp.chm file, “About Device Relay” subtopic) (Nov. 26, 2002) (Ex. 1016).
8. “Readme.htm” (available at installed Intel_Tools_4UT_v1080.exe, Readme.htm file) (Dec. 16, 2002) (Ex. 1017).

UPnP Design renders obvious claims 1-33, as described below. UPnP Design discloses “being able to use your home PC as a control center from which

[1] Although the book and its included CD are parts of a single publication, to the extent that the Patent Board finds otherwise, it would have been obvious to combine the book and its included CD under 35 U.S.C. § 103 at least because they were packaged together and sold together. Mayer-Patel Decl. at ¶ 49.

you can direct audio or video content (music, movies, and so on) from the Internet or your hard drive to play on your stereo or TV." Ex. 1008 at xv. UPnP Design discloses the UPnP A/V architecture, shown below, as well as extensions to and variations of that architecture.



Ex. 1008 at 360. As described in the chart below, UPnP Design discloses a "Device Spy" and an "A/V Media Controller" (each CPP logic) that cooperate with a "Device Relay" (CP logic) to negotiate media content delivery between, for example, an "A/V Media Sever" (a media server) and an "A/V Media Renderer" (a media renderer) "over the Internet" or "over the WAN." *Id*. at 185-86; *see* claim chart *infra*. UPnP Design discloses that such media content may include video and may be controlled with VCR controls such as "Stop," "Play," "Pause," "Seek," "Next," and "Previous." *E.g.*, Ex. 1008 at 374.

To the extent that UPnP Design does not disclose any of the limitations of claims 1-33 for the reasons discussed below, UPnP Design renders such limitations

obvious for the same reasons. In addition, it would have been obvious to one of skill in the art to modify the disclosures of UPnP Design in accordance with the limitations of claims 1-33 in order to extend the accessibility and operability of UPnP networks beyond a local network or single sub-network and/or have multiple UPnP networks communicate with each other, especially because a goal of UPnP was to have UPnP devices automatically and universally interact with each other, as discussed by UPnP Design itself. Mayer-Patel Decl. at ¶ 52.

Claim Language	UPnP Design
1.pre. A method of controlling and delivering media content from a media server (MS) to a media renderer (MR) utilizing a wide area network for control, comprising the acts of:	UPnP Design discloses "media servers" such as the "UPnP A/V Media Server" (an exemplary media server). Ex. 1008 at 186, 360 ("Media Server"), 363; Ex. 1010 at 5-7 ("MediaServer"); Ex. 1011 (MediaServer:1 Device Template Version 1.01) at 1-8. UPnP Design discloses that a media server may be a "VCR, CD/DVD player/jukebox, camera, camcorder, PC, set-top box, satellite receiver, audio tape player, etc." (media servers). Ex. 1010 at 5. UPnP Design discloses "media renderers" such as the "UPnP A/V Media Renderer." Ex. 1008 at 186, 360 ("Media Renderer"), 375; Ex. 1010 at 5-6, 8 ("MediaRenderer"); Ex. 1012 (MediaRenderer:1 Device Template Version 1.01) at 1-8. UPnP Design discloses that examples of media renderers include "TV, stereo, network-enabled speakers, MP3 players, Electronic Picture Frame (EPF), a music-controlled water fountain, etc." (media renderers). Ex. 1010 at 6. UPnP Design discloses control points, such as "Device Spy" and "A/V Media Controller," that may operate with "Device Relay" "over the Internet" and "over the WAN" (utilizing a wide area network for control). Ex. 1008 at 185-186, 360-361, 381-383; Ex. 1010 at 5-6, 9-11.

Claim Language	UPnP Design
	UPnP Design discloses that Device Relay "effectively bridges two UPnP networks" "by making the device that exists over the WAN interface appear on your own LAN" so that one can "test and debug your device remotely" (utilizing a wide area network for control). Ex. 1008 at 185; Ex. 1016 at 1.
1.a. provisioning a serving node in the wide area network with control point (CP) logic that includes logic to negotiate media content delivery with at least one of the MS and the MR, wherein the CP logic, MS, and MR resides outside of a user endpoint (UE) and the CP logic resides in the signaling domain and serves as a first proxy;	UPnP Design discloses that "[a]ny entity that invokes the services of a UPnP device is a control point." Ex. 1008 at 19. UPnP Design discloses that using Device Relay (CP logic of a serving node), "[c]ontrol points on the other network can interact with mirrored devices" because "events and action invocations are forwarded to the source relay using SOAP." Ex. 1016 at 1; Ex. 1017 at 3. UPnP Design discloses that "[e]ach mirrored device actually handles the action invocations and subscription requests on the remote network." Ex. 1016 at 1. UPnP Design discloses that control points "connects a Media Server to the Media Renderer" (negotiate media content delivery between the MS and MR). Ex. 1008 at 360-361; *see also*, *e.g.*, *id*. at 381-383 ("A/V Control Point … performs all … coordination between Media Servers and Media Renderers"); Ex. 1010 at 5-6 ("The Control Point requests to configure the Media Server and Media Renderer so that the desired content flows from the MediaServer to the MediaRenderer"), 9-11 ("Control Points coordinate the operation of the MediaServer and the MediaRenderer"), 12-22 (A/V playback negotiated by control point). UPnP Design discloses that Device Relay serves data at least by "mirror[ing] all other devices from one network on to the other" and is accessible "over the Internet" and "over the WAN" (is part of a serving node in the wide area network). Ex. 1008 at 185; Ex. 1017 at 3. UPnP Design discloses that Device Relay controls UPnP devices on a remote local area network on behalf of a local area network and "mirror[s] all other devices from one

Claim Language	UPnP Design
	network on to the other" (serves as a first proxy). Ex. 1017 at 3. UPnP Design discloses that Device Relay (CP logic) receives UPnP control messages and negotiates media content delivery with an MS and/or MR, as described above, and "[m]aterial out-of-band to UPnP is not bridged" by the Device Relay (resides in the signaling domain). Ex. 1016 at 1. UPnP Design discloses "your PC" and "your home PC" (exemplary UEs) on which one installs tools such as "Device Spy" and "A/V Media Controller." Ex. 1008 at xv, 186; *see also* Ex. 1008 at 3 (implementing UPnP on devices including a "PC"). UPnP Design discloses that Device Spy and A/V Media Controller are "control points," and control points may be implemented on a "TV with a traditional remote control or a wireless PDA-like device with a small display" (exemplary UEs). Ex. 1010 at 6. UPnP Design discloses that "UPnP devices can be developed on any platform" and "UPnP technology can be supported on any common operating system or hardware platform" (UEs). Ex. 1008 at 5-6. UPnP Design discloses that MSs, MRs, and CPs, may each be "independent devices on the network" and may "exist as separate, individual UPnP devices" (reside outside of the user endpoint). Ex. 1010 at 5; *see also* Ex. 1008 at 17-18.

Regarding limitation 1.a, Device Relay controls UPnP devices on a remote local area network on behalf of a local area network control point and therefore is control point (CP) logic. Mayer-Patel Decl. at ¶ 57.

Claim Language	UPnP Design
1.b. provisioning	UPnP Design discloses "Device Spy" and "A/V Media

Claim Language	UPnP Design
the UE of the wide area network with control point proxy (CPP) logic that includes (i) logic to negotiate media content delivery with at least one of the MS and the MR, (ii) logic to cooperate with CP logic to negotiate media content delivery between the MS and the MR, and (iii) video cassette recorder (VCR) controls to control a presentation of content provided by the MS and rendered by the MR, wherein the CPP logic resides in the UE and serves as a second proxy;	Controller" (each CPP logic of a UE). Ex. 1008 at 185-86. UPnP Design discloses running Device Spy and A/V Media Controller (CPP logic of a UE) on the PCs of limitation 1.a (exemplary UEs) connected to "the Internet" or a "WAN." (UE of the wide area network). Ex. 1008 at 185-186. UPnP Design discloses that Device Spy (CPP logic) "acts as a universal control point" and A/V Media Controller (CPP logic) is a "Device Spy for A/V devices" that "allow[s] you to discover and setup connections between UPnP A/V Media Renderers and UPnP Media Servers" (negotiate media content delivery between the MS and MR). *Id*. UPnP Design discloses that control points (*e.g.*, Device Spy and A/V Media Controller) negotiate media content delivery between an MS and MR, as described for limitation 1.a. UPnP Design also discloses that Device Spy and A/V Media Controller operate with the A/V Media Server and A/V Media Renderer (negotiate media content delivery between the MS and MR). Ex. 1008 at 185-186. UPnP Design discloses that Device Spy and A/V Media Controller (CPP logic) cooperate with Device Relay (CP logic) to control devices "remotely from any location in the world over the Internet by making the device that exists over the WAN interface appear to exist on your own LAN" (CPP logic serves as a second proxy). Ex. 1008 at 185. UPnP Design discloses that with Device Relay, "[c]ontrol points on the other network can interact with mirrored devices" and "events and action invocations are forwarded to the source relay using SOAP" (CPP logic servers as a second proxy). Ex. 1016 at 1; Ex. 1017 at 3. UPnP Design discloses that Device Spy and A/V Media Controller (each CPP logic) each is a "control point" and control points may use the "AVTransport service [to] invoke one of the transport control actions … Play, Stop, Seek, etc." (VCR controls to control a presentation of content provided by the MS and rendered by the MR). Ex. 1010 at

Claim Language	UPnP Design
	9-10. UPnP Design discloses that such AVTransport controls include "Stop," "Play," "Pause," "Seek," "Next," "Previous," and so on (VCR controls). Ex. 1013 at 24-30. *See also* Ex. 1008 at xv (playing movies using a home PC), 5 (a MediaServer may be a "VCR," which is controlled with VCR controls), 370 ("Play, Pause, Stop, Seek, and so on"), 374 ("Stop," "Play," "Pause," "Seek," "Next," "Previous"), 380 ("Play, Pause, Stop, and so on"); Ex. 1012 at 6 ("Play, FF, REW, Seek, etc."), 7 ("Play, Pause, Stop, Seek, etc."); Ex. 1010 at 8 ("Stop, Pause, Seek, etc.").
1.c. in response to a media content delivery request, determining a network context of the UE and a network connectivity of the MS and MR;	UPnP Design discloses that the negotiation of media content delivery from the MS to the MR (in response to a media content delivery request) using UPnP protocol involves determining that the MS and MR are connected to an accessible network (determining a network connectivity of the MS and MR in response to a media content delivery request). *E.g.*, Ex. 1008 at 375-76 (querying the MR across a network), 368 (querying the MS across a network), 381-383 (receiving responses from the MS and MR across a network); Ex. 1010 at 9-10 (same). UPnP Design discloses that Device Spy and A/V Media Controller (CPP logic in a UE) communicate with the MS and the MR over a network such as a LAN or WAN in order to negotiate media content delivery between the MS and MR, as described for limitation 1.a (determining the network context of the UE (*e.g.*, determining connectivity to a network) and a network connectivity of the MS and the MR (*e.g.*, their connectivity to the network)). Ex. 1010 at 3-6, 9-10; Ex. 1008 at 185-186.
1.d. invoking the CPP logic and the CP logic to cooperatively negotiate media content delivery between the MS and	UPnP Design discloses invoking Device Spy and A/V Media Controller (each CPP logic) and Device Relay (CP logic) to cooperatively negotiate media content delivery between the MS and MR, as described for limitation 1.b. UPnP Design discloses that UPnP networks may be "wired" because "UPnP technology can run on any medium for

Claim Language	UPnP Design
the MR if one of the MS and MR are not in communication with the UE via a local wireless network; and	which there is an IP stack." Ex. 1008 at 5-6. UPnP Design discloses that the Device Relay operates over the Internet (not … a local wireless network). *Id*. at 185. UPnP Design discloses that "UPnP A/V" is "media and transfer protocol agnostic." Ex. 1008 at 361.

Regarding limitation 1.d, UPnP Design's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1008 at 360-361, 381-383; Ex. 1010 at 5-6, 9-22; Mayer-Patel Decl. at ¶ 74.

Claim Language	UPnP Design
1.e. once media content delivery is negotiated, controlling a presentation of delivery via the VCR controls on the UE.	UPnP Design discloses that Device Spy and A/V Media Controller (CPP logic on the UE) each is a "control point" and control points may control a presentation of media content using the VCR controls described for limitation 1.b. *E.g.*, Ex. 1010 at 10 ("Using the AVTransport service, invoke one of the transport control actions … Play, Stop, Seek, etc."); Ex. 1008 at 374 ("Stop the current resource;" "Play the current resource;" "Pause the current resource;" etc.), 380 ("use VCR-like operations … to control the playback of content on the Renderer").
2. The method of claim 1, wherein the CPP logic is invoked to negotiate media content delivery between the MS and the MR if the MS and MR are both in communication with the UE via a local wireless network.	UPnP Design discloses invoking Device Spy and A/V Media Controller (each CPP logic of a UE) to negotiate media content delivery between the MS and MR, as described for limitation 1.b. UPnP Design discloses that Device Spy and A/V Media Controller each are a UPnP "control point." Ex. 1008 at 185-86. UPnP Design discloses that control points can be invoked to negotiate media content delivery between the MS and MR. Ex. 1008 at 185-186, 360; Ex. 1010 at 3-6, 9-11. UPnP Design discloses that "UPnP A/V" is "media and

Claim Language	UPnP Design
	transfer protocol agnostic." Ex. 1008 at 361. See also claim 9 (the UE may be in communication with the MS and MR via a local wireless network).

Regarding claim 2, UPnP Design's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1008 at 360-361, 381-383; Ex. 1010 at 5-6, 9-22; Mayer-Patel Decl. at ¶ 76.

Claim Language	UPnP Design
3. The method of claim 2, wherein the local wireless network includes at least one a Wi-Fi network, a WiMax network, and a Bluetooth network.	UPnP Design discloses that UPnP networks may be "IEEE 802 networks." Ex. 1008 at xvii. UPnP Design discloses that "UPnP technology can be supported on any common operating system or hardware platform, and it works with almost any type of physical networking media – wired or wireless – providing maximum user and developer choice." Ex. 1008 at 5.

Regarding claim 3, "IEEE 802 networks" include Wi-Fi, WiMax, and Bluetooth networks. Mayer-Patel Decl. at ¶ 79. In addition, one of skill in the art would have recognized that the local wireless network could have been, and typically would have been, a Wi-Fi, WiMax, or Bluetooth network, all of which were well known. Mayer-Patel Decl. at ¶ 80.

Claim Language	UPnP Design
4. The method of claim 1, wherein the CP logic is invoked	UPnP Design discloses invoking Device Relay (CP logic) to negotiate media content delivery between its local MS and MR, as described for limitations 1.a and 1.b.

Claim Language	UPnP Design
to negotiate media content delivery between the MS and the MR if neither the MS nor the MR are in communication with the UE via the local wireless network.	UPnP Design discloses that UPnP networks may be "wired" because "UPnP technology can run on any medium for which there is an IP stack." Ex. 1008 at 5-6. UPnP Design discloses that "UPnP A/V" is "media and transfer protocol agnostic." Ex. 1008 at 361. UPnP Design discloses that the Device Relay operates over the Internet, which is not a local wireless network. *Id*. at 185.

Regarding claim 4, UPnP Design's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1008 at 360-361, 381-383; Ex. 1010 at 5-6, 9-22; Mayer-Patel Decl. at ¶ 82.

Claim Language	UPnP Design
5. The method of claim 1, wherein the UE is implemented on a handset.	UPnP Design discloses that Device Spy and A/V Media Controller (CPP logic of the UE) are control points. Ex. 1008 at 185-86. UPnP Design discloses that UPnP devices, including control points, may be implemented as a "PDA" or "PDA-like device" (handsets). Ex. 1008 at 7, 70; Ex. 1010 at 6. UPnP Design discloses that "A/V Wizard" is a "lightweight control point." *Id*. at 186. UPnP Design discloses that "UPnP technology can be supported on any common operating system or hardware platform, and it works with almost any type of physical networking media – wired or wireless – providing maximum user and developer choice." Ex. 1008 at 5.

Regarding claim 5, because UPnP Design discloses that "A/V Wizard" is a control point, A/V Wizard therefore satisfies the recited "CPP logic" in the same way as the Device Spy and A/V Media Controller. Mayer-Patel Decl. at ¶ 85.

Claim Language	UPnP Design
6. The method of claim 5, wherein the handset comprises a display, and the MR uses the display.	UPnP Design discloses a "PDA-like device with a small display" (handset with a display). Ex. 1010 at 6. UPnP Design discloses that UPnP devices, such as an MR, may present their functionality to control points, such as the Device Spy, A/V Media Controller, and A/V Wizard components of the UE. Ex. 1008 at 151, 185-86. UPnP Design discloses that such presentation may take the form an HTML web page that allows the user to "manipulate the device's operational parameters," "view device statistics," or "manually invoke actions on the device's services." *Id*. at 152. UPnP Design discloses that the control point may display the web page on a web browser (MR uses the handset's display). *Id*. at 153-155. UPnP Design also discloses that media renderers must implement the "RenderingControl" service, which allows a media renderer to present to a control point a number of dynamically configurable attributes that affect how content is rendered (MR uses the control point handset's display). Ex. 1008 at 376-380; Ex. 1012 at 5; Ex. 1014 at 6.
7. The method of claim 1, wherein at least one of the MS and the MR is on a 3G network and in communication with the serving node.	UPnP Design discloses that the A/V Media Server (an exemplary MS) and A/V Media Server (an exemplary MR) are in communication with Device Relay (CP logic of serving node), as described for limitation 1.b. UPnP Design discloses that UPnP devices, such as an MS and MR, may be implemented as a "PDA" or "PDA-like device." Ex. 1008 at 7, 70; Ex. 1010 at 6. UPnP Design discloses that the MR in particular is "very lightweight and is easy to implement on low-resources devices." Ex. 1012 at 3. UPnP Design discloses that UPnP may run on

Claim Language	UPnP Design
	"wireless" networks. Ex. 1008 at 5 ("UPnP … works with … wireless"), 6 ("UPnP technology can run on any medium for which there is an IP stack"), 7, 70; Ex. 1010 at 6.
8. The method of claim 1, wherein the UE is in communication with the MR via a local wireless network.	See claim 9.
9. The method of claim 1, wherein the UE is in communication with both the MS and the MR via a local wireless network.	UPnP Design discloses that Device Spy and A/V Media Controller (CPP logic of a UE) are control points. Ex. 1008 at 185-186. UPnP Design discloses that an MR, MS, and control points may all be in communication on a local network. *E.g.*, Ex. 1008 at 3-4 ("home network"), 33 ("home or small office network"), 76 (same), 185 ("your own LAN"), 360 ("Home LAN"); Ex. 1010 at 6-8 ("home network"), 9 ("MediaServers and MediaRenderers in the home network"). UPnP Design discloses that such UPnP networks may be wireless (local wireless network). Ex. 1008 at xv ("wireless home network"), 5 ("UPnP … works with … wireless"), 6 ("UPnP technology can run on any medium for which there is an IP stack"); Ex. 1010 at 6 (UE may be a "wireless PDA-like device" in a home network).
10. The method of claim 1, wherein the CP logic negotiates service delivery from the MS, the MS being on a 3G network, the CPP logic in the UE negotiates delivery on the MR, and the	UPnP Design discloses that Device Relay (CP logic) negotiates service delivery from remote UPnP devices, which include the A/V Media Server (MS), as described for limitation 1.b and claim 4. UPnP Design also discloses that Device Spy and A/V Media Controller (each CPP logic in a UE) act as control points and control points negotiate service delivery from their local UPnP devices, which may include the A/V Media Renderer (MR), as described for limitation 1.b and claim 2.

Claim Language	UPnP Design
CP logic and CPP logic execute synchronization logic to complete the negotiation of delivery from the MS to the MR.	UPnP Design renders obvious implementing the MS on a 3G network, as described for claim 7. UPnP Design discloses that Device Relay "mirror[s] all other devices from one network on to the other" and "events and action invocations are forwarded to the source relay using SOAP" (execute synchronization logic in order to complete negotiation of content delivery from a remote MS to a local MR). Ex. 1017 at 3. UPnP Design also discloses that "the Control Point synchronizes the behavior of" the MS and MR (executes synchronization logic to complete the negotiation of delivery from MS to the MR). Ex. 1010 at 4.
11. The method of claim 1, wherein the UE communicates its network context to the serving node and the serving node informs the UE of the serving node's capabilities for negotiation with devices local to the UE.	UPnP Design discloses that Device Relay "mirror[s] all other devices from one network on to the other" and discloses running Device Relay both remotely (on the serving node) (serving node informs the UE of the serving node's capabilities for negotiation with the devices, including any that may be local to the UE) and locally (on the UE) (UE communicates its network context to the serving node). Ex. 1008 at 185; Ex. 1017 at 3 ("Start Device Relay on two different computers"). UPnP Design discloses that the UE may be "wireless PDA-like device." Ex. 1008 at 7; Ex. 1010 at 6.
12. The method of claim 1, wherein the CP logic is configured to serve multiple unrelated devices running CPP logic	UPnP Design discloses that Device Relay (CP logic) makes UPnP devices available "over the Internet" such that "[c]ontrol points on the other network can interact with mirrored devices" (multiple unrelated devices). Ex. 1008 at 185-86; Ex. 1016 at 1. UPnP Design discloses that Device Spy and A/V Media Controller (UEs with CPP logic) are "control points," and are served by Device Relay (served by CP logic). Ex. 1008 at 185-86.

Claim Language	UPnP Design
	UPnP Design discloses that the control points may be implemented in "independent devices" (multiple unrelated devices running CPP logic). Ex. 1010 at 5; Ex. 1008 at 17-18.
13. The method of claim 12, wherein CPP logic is implemented in a UE resident in a handset and in a remote control device.	UPnP Design discloses that the UE with CPP logic may be implemented in a handset, as described for claim 5. UPnP Design discloses that Device Spy and A/V Media Controller are control points and that control points may be embodied in a "remote control" or "a traditional remote control" (remote control device). Ex. 1008 at 185-86, Ex. 1010 at 5, 6.
14. The method of claim 13, wherein a user uses the CPP logic in the handset when the user is remote from the MR and uses the CPP logic in the remote control device when the user is local to the MR.	UPnP Design discloses that Device Spy and A/V Media Controller (CPP logic) are control points and that such control point logic may be incorporated in a handset and in a remote control device, as described for claim 13. UPnP Design discloses using Device Spy and A/V Media Controller (CPP logic) to cooperate with Device Relay to control remote media renderers, as described for limitation 1.b (using the CPP logic in the handset when remote from the MR). UPnP Design discloses using control points for direct control of local UPnP devices (using the CPP logic in the remote control device for a local MR). Ex. 1008 at 185-86, 360; Ex. 1010 at 3-4, 9-10.
15. The method of claim 1, wherein, if one of the MS and MR are remote from the UE, the CPP logic provides information about invoked VCR	UPnP Design discloses that when MS or MR are on a remote UPnP network (remote from the UE) and are being controlled by Device Relay (CP logic on serving node), Device Spy and A/V Media Controller (CPP logic on UE) provide control information to Device Relay for the remote MS or MR, as described for limitation 1.b. UPnP Design discloses that such control information

Claim Language	UPnP Design
controls to the CP logic on the serving node to allow the CP logic to control the remote MS or MR.	includes VCR control commands, as discussed for limitation 1.e.

Regarding claim 15, Device Spy and A/V Media Controller (CPP logic) necessarily provide information at least about which such VCR controls are invoked to Device Relay (CP logic) to allow Device Relay to control the remote MS or MR. Mayer-Patel Decl. at ¶ 111.

Claim Language	UPnP Design
16. The method of claim 1, wherein the MS and the MR are in a digital home network.	UPnP Design discloses that the MS and MR may be in a "home network" and used for "home networking" (a digital home network). Ex. 1008 at 4-5, 7-8, 359 ("UPnP … media distribution in the home"), 360 (MS and MR on "Home LAN"); Ex. 1010 at 6 ("home network").
17. The method of claim 1, wherein the UE determines that it is local to at least one of the MS and the MR by using Universal Plug and Play (UPnP) protocols.	UPnP Design discloses that Device Spy and the A/V Media Controller (UEs) are control points and that the A/V Media Server (an exemplary MS) and A/V Media Renderer (an exemplary MR) are UPnP devices. Ex. 1008 at 185-86. UPnP Design discloses that control points detect local UPnP devices either by receiving "presence announcements" from the devices or issuing UPnP "discovery requests" and receiving "discovery responses" (determines that it is local to …one of the MS and the MR by using UPnP protocols). Ex. 1008 at 32-33 (device discovery), 75-87 (discovery requests and responses), 87-92 (presence announcements), 185-86. UPnP Design discloses that Device Spy and A/V Media Controller (UEs) may be local to the MS and MR. Ex. 1008 at 185-86, 360.

Claim Language	UPnP Design
18. The method of claim 1, wherein at least one of the MS and MR announce their presence to the UE using at least one of UPnP protocols, Jini technology, RFID, and Bluetooth.	UPnP Design discloses that UPnP devices (MS and MR) multicast "presence announcements" to all other devices on the network using the UPnP protocol. Ex. 1008 at 32-33; see also 87-92 ("presence announcements"). UPnP Design discloses that Device Spy and A/V Media Controller (UEs) may be on the same network as the A/V Media Server (an exemplary MS) and A/V Media Renderer (an exemplary MR). Ex. 1008 at 185-86, 360. UPnP Design discloses that Device Relay operates such that "events … are forwarded to the source relay" (to the UE). Ex. 1017 at 3. UPnP Design discloses that UPnP "presence announcements" are events that use the GENA protocol. Ex. 1008 at 32, 129.
19. The method of claim 1, wherein the negotiation of media content delivery includes the negotiation of out-of-band media transfer between the MS and the MR.	UPnP Design discloses that the MS transfers media to the MR with an "out-of-band … transfer protocol." Ex. 1010 at 6; Ex. 1008 at 360 ("out-of-band transfer protocol"). UPnP Design discloses that "the UPnP architecture provides no mechanism for UPnP [MS and MR] devices to communicate directly with each other." Ex. 1008 at 381.

UPnP Design renders obvious claims 20-33 for the same reasons.

Claim Language	UPnP Design
20.pre. A method of controlling and delivering media content from a media server (MS) to a media renderer (MR) utilizing a wide area network for control, where a user endpoint (UE) is provisioned with control point proxy (CPP) logic that includes (i) logic to negotiate media content delivery with at least one of the MS and the MR, (ii) logic to cooperate with network control point (CP) logic to negotiate media content delivery between the MS and the MR, and (iii) video	See limitations 1.pre and 1.b.

Claim Language	UPnP Design
play controls to control a presentation of content provided by the MS and rendered by the MR, wherein the CPP logic resides in the UE and serves as a first proxy, comprising the acts of:	
20.a. provisioning a serving node in the wide area network with control point (CP) logic that includes logic to negotiate media content delivery with at least one of the MS and the MR, wherein the CP logic, MS, and MR resides outside of a user endpoint (UE) and the CP logic resides in the signaling domain and serves as a second proxy;	See limitation 1.a.
20.b. in response to a media content delivery request, the wide area network determining a network context of the UE and a network connectivity of the MS and MR;	See limitation 1.c.
20.c. invoking the CPP logic and the CP logic to cooperatively negotiate media content delivery between the MS and the MR if one of the MS and MR are not in communication with the UE via a local wireless network; and	See limitation 1.d.
20.d. once media content delivery is negotiated, receiving video play controls from the UE.	See limitations 1.e.
Claim 21.	See claim 2.
Claim 22.	See claim 3.
Claim 23.	See claim 4.
Claim 24.	See claim 16.
Claim 25.	See claim 18.
Claim 26.	See claim 19.
27.pre. A user endpoint (UE) for communication with a serving node in a network, the serving node having control point (CP) logic that includes logic to negotiate media content delivery with at least one of a media server (MS) and a media renderer (MR), wherein the CP logic, MS, and MR reside outside of the UE and the CP logic resides in the signaling domain and serves as a first proxy, the UE comprising:	See limitations 1.pre and 1.a.
27.a. a transceiver to communicate with the network,	See limitation 1.b.

Claim Language	UPnP Design
the MS and the MR; and	

Regarding limitation 27.a, the PC of limitation 1.a (an exemplary UE) necessarily has a transceiver for the communication described in limitation 1.b. Mayer-Patel Decl. at ¶ 134.

Claim Language	UPnP Design
27.b. a computer readable medium comprising: personal agent logic configured to determine a network context of the UE; and	See limitation 1.c.
27.c. control point proxy logic configured to: negotiate media content delivery with at least one of the MS and the MR,	See limitation 1.b.
27.d. cooperate with the serving node CP logic to negotiate media content delivery between the MS and the MR, and	See limitation 1.b.
27.e. once media content delivery is negotiated, control a presentation of media content provided by the MS and rendered by the MR with video play controls.	See limitation 1.e.
Claim 28.	See claim 6.
Claim 29.	See claim 9.
Claim 30.	See claim 3.
Claim 31.	See claim 17.
Claim 32.	See claim 11.
Claim 33.	See claim 5.

H. Ground 2: Claims 1-33 Are Obvious Under 35 U.S.C. § 103(a) (pre-AIA) In Light Of UPnP Design And Costa-Requena.

Claims 1-33 are obvious under 35 U.S.C. § 103(a) (pre-AIA) in light of UPnP Design, discussed above, and U.S. Patent Application Publication No. 2006/0143295 to Costa-Requena, et al. ("Costa-Requena"). Ex. 1019. Costa-Requena is prior art to the '412 patent under at least 35 U.S.C. § 102(e) (pre-AIA)

because it has a U.S. filing date of Dec. 27, 2004, which pre-dates the earliest possible priority date on the face of the '412 patent (Jun. 24, 2005).

To the extent that UPnP Design does not disclose any of the limitations of claims 1-33 for the reasons discussed above in Section III.G, UPnP Design and Costa-Requena render such limitations obvious for the reasons discussed below. Citations to UPnP Design are not repeated in the chart below for brevity.

Costa-Requena discloses a UPnP architecture "such that a mobile station outside of a UPnP network can communicate with devices within the UPnP network:"

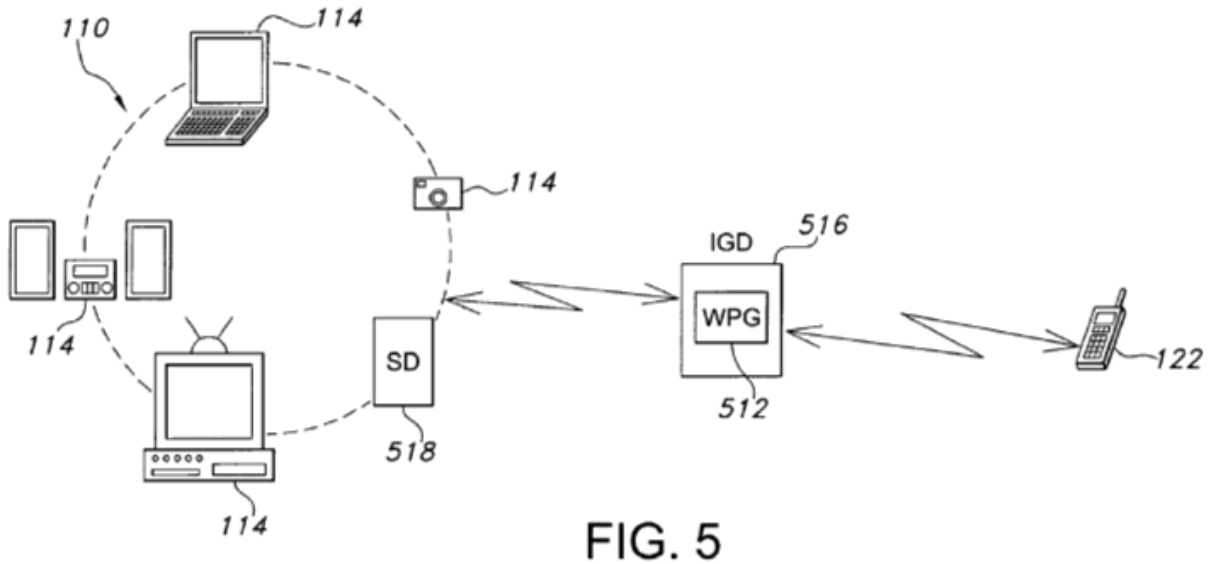


FIG. 5

Ex. 1019 at ¶ 1, Fig. 5. As described in the chart below, Costa-Requena discloses mobile station 122 (UE with CPP logic) that transmits "UPnP messages" and cooperates with web proxy gateway 512 (CP logic), which "acts as a Control Point," in Internet Gateway Device 516 (serving node) to negotiate media content

delivery between, for example, UPnP devices 114 (which include an MS and MR) across a wide area network such as the Internet. See claim chart *infra*. Costa-Requena discloses that the media may be "video." Ex. 1019 at ¶ 4.

Costa-Requena also discloses an embodiment, shown in Fig. 1, where "a user who is visiting a remote UPnP network 120 can communicate with his home UPnP network 110 from the remote location using his/her mobile station 122." Ex. 1019 at ¶ 28, Fig. 1. Costa-Requena discloses that mobile station 122 is compatible with both the embodiment shown in Figure 1 and the embodiment shown in Figure 5 because it refers to the same "mobile station 122" as operating in both embodiments. *E.g.*, Ex. 1019 at ¶¶ 28, 38. Moreover, the two embodiments are compatible with and complimentary to each other because both allow the remote mobile station 122 to interact with UPnP Devices 114 in network 110. *Id.*; Mayer-Patel Decl. at ¶ 148. In the embodiment shown in Figure 1, mobile station 122 may also interact with UPnP Devices 124 that are local to it in network 120. Ex. 1019 at ¶¶ 28-29.

It would have been obvious to one of skill in the art to combine the disclosures of UPnP Design and Costa-Requena, and there would have been motivation to combine them, at least because: 1) both describe UPnP systems; 2) both describe extending the accessibility and operability of UPnP networks beyond a local network or single sub-network and/or describe having multiple UPnP

networks communicate with each other; and 3) a goal of UPnP was to have UPnP devices automatically and universally interact with each other, as discussed by the references themselves. Mayer-Patel Decl. at ¶ 149. Moreover, in implementing the UPnP architecture described in Costa-Requena, a person of skill in the art would have been guided by the disclosure of UPnP Design, and relied upon the UPnP specifications contained therein, in order to implement the details of such a UPnP architecture. *Id*. Such specifications explain, for example, which services are required and which services are optional in a UPnP MediaServer and UPnP MediaRenderer, and the expected behavior of such services. *See* Exs. 1011-15. As such, the combination of these disclosures would not go beyond combining known elements to yield predictable results. Mayer-Patel Decl. at ¶ 149.

Claim Language	Costa-Requena
1.pre. A method of controlling and delivering media content from a media server (MS) to a media renderer (MR) utilizing a wide area network for control, comprising the acts of:	Costa-Requena discloses that UPnP devices 114 and 124 may include a "media server" (media server), "televisions" (media renderers), and a "media output device" (media renderer). Ex. 1019 at ¶¶ 26, 30, 37, Figs. 1 (showing a television and laptop), 5 (same). Costa-Requena also discloses a "PC" media renderer. *Id*. at ¶ 37. Costa-Requena discloses streaming "audiovisual (AV) media" from a UPnP "media server" to a UPnP "media output device," transferring "video" between UPnP devices, and delivering "songs" from a media server to a media renderer (each delivering media content from a media server to a media renderer). *Id*. at ¶¶ 4, 30, 37. Costa-Requena discloses that mobile station 122 can control the UPnP devices 114 via web proxy gateway 512, which is accessible via a wide area network such as "the Internet"

Claim Language	Costa-Requena
	(using a wide area network for control). Ex. 1019 at ¶ 38.
1.a. provisioning a serving node in the wide area network with control point (CP) logic that includes logic to negotiate media content delivery with at least one of the MS and the MR, wherein the CP logic, MS, and MR resides outside of a user endpoint (UE) and the CP logic resides in the signaling domain and serves as a first proxy;	Costa-Requena discloses web proxy gateway 512 (CP logic) in Internet Gateway Device 516 (serving node) that acts as a gateway to UPnP network 110. Ex. 1019 at ¶ 40. Costa-Requena discloses delivering media content from a media server to a media renderer. Ex. 1019 at ¶ 4. Costa-Requena discloses that web proxy gateway 512 (CP logic) acts as a "Control Point" for UPnP devices, including UPnP devices 114 (MS and MR) (includes logic to negotiate media content delivery between the MS and MR). Ex. 1019 at ¶ 40. Costa-Requena discloses that web proxy gateway 512 (CP logic in the serving node) serves UPnP messages to mobile station 122 and UPnP devices 114, and it is located on, for example, "the Internet" (serving node in the wide area network). *Id*. at ¶¶ 38, 39, Fig. 5. Costa-Requena discloses that the web proxy gateway 512 "acts as a relay" for mobile station 122 communicating with UPnP devices 114 (MS and MR) (serves as a first proxy). Ex. 1019 at ¶ 39. Costa-Requena discloses that the web proxy gateway 512 (CP logic) relays "UPnP commands" between mobile station 122 and UPnP devices 114 (resides in the signaling domain). *Id*. Costa-Requena discloses mobile station 122 (UE), which may be a "mobile phone, pager, handheld data terminal, personal data assistant (PDA), or other handheld mobile electronic device capable of wireless communication." Ex. 1019 at ¶¶ 26, 32. Costa-Requena discloses that web proxy gateway 512 (CP logic) and UPnP devices 114 (MS and MR) reside outside of the mobile station 122 (UE). *Id*. at Fig. 5.

Regarding limitation 1.a, because web proxy gateway 512 is a UPnP Control Point for UPnP devices that include an MS and MR, it includes logic to negotiate media content delivery between the MS and MR. Mayer-Patel Decl. at ¶ 154; *see also, e.g.*, Ex. 1010 at 5-6, 9-11. In addition, Costa-Requena's disclosed media content delivery between UPnP devices would be performed by a UPnP Control Point, such as web proxy gateway 512. Mayer-Patel Decl. at ¶ 154; *see also e.g.*, Ex. 1010 at 5-6, 9-11.

Claim Language	Costa-Requena
1.b. provisioning the UE of the wide area network with control point proxy (CPP) logic that includes (i) logic to negotiate media content delivery with at least one of the MS and the MR, (ii) logic to cooperate with CP logic to negotiate media content delivery between the MS and the MR, and (iii) video cassette recorder (VCR) controls to control a presentation of content provided by the MS and rendered by the MR, wherein the	Costa-Requena discloses that mobile station 122 (UE with CPP logic on a wide area network) has logic such that "UPnP messages … are sent directly from mobile station 122 to the UPnP device[s] 114 … through the web proxy gateway 512" (cooperating with CP logic). Ex. 1019 at ¶ 39. Costa-Requena discloses that such UPnP messages include "UPnP commands." Ex. 1019 at ¶ 39. Costa-Requena discloses that "[u]sing UPnP technology, … video … can be transferred between (UPnP) devices" and UPnP may be used for streaming "audiovisual (AV) media" from a UPnP "media server" to a UPnP "media output device" (media renderer) (negotiating media content delivery). *Id*. at ¶¶ 4, 30, 39. Costa-Requena discloses the web proxy gateway 512 (CP logic) "acts as a relay" over which "UPnP messages … are sent directly from the mobile station 122 to the UPnP device[s] 114" (MS and MR) (CPP logic cooperates with CP logic to negotiate media content delivery between the MS and MR, and serves as a second proxy). Ex. 1019 at ¶ 39, Fig. 5. Costa-Requena also discloses that web proxy gateway 512 may establish a secure VPN channel from mobile station 112

Claim Language	Costa-Requena
CPP logic resides in the UE and serves as a second proxy;	to one of the UPnP devices 114, may provide "authentication and authorization" of mobile station 112, and may convert between WS and UPnP protocols (CPP logic cooperates with CP logic to negotiate media content delivery). Ex. 1019 at ¶¶ 38-40. Costa-Requena discloses that mobile station 122 (UE with CPP logic) may use UPnP "control messages" to control UPnP devices such as "televisions" that may play media content such as "video" and "audiovisual (AV) media" (VCR controls to control a presentation of content provided by the MS and rendered by the MR). Ex. 1019 at ¶¶ 4, 26, 30, 39; Fig. 5 (showing a VCR). Costa-Requena also discloses that mobile station 122 includes a "play" control. *Id*. at ¶ 37.
1.c. in response to a media content delivery request, determining a network context of the UE and a network connectivity of the MS and MR	Costa-Requena discloses that mobile station 122 may receive requests from a user for media content delivery, as discussed for limitations 1.a and 1.b. *See also* Ex. 1019 at ¶¶ 4, 30, 39. Costa-Requena discloses that mobile station 122 may negotiate delivery of media content between UPnP devices 114 (MS and MR), as discussed for limitation 1.b. Costa-Requena also discloses that mobile station 122 may establish "a secure channel with" any of the UPnP devices 114 (MS and MR). Ex. 1019 at ¶ 38.

Regarding limitation 1.c, in negotiating the delivery of media content or establish a secure channel, the mobile station 122 (UE) necessarily determines its network context (*e.g.*, connectivity to a network) and the network connectivity of the MS and MR (*e.g.*, their connectivity to a network). Mayer-Patel Decl. at ¶ 168; *see* limitation 1.c in the UPnP Design claim chart, *supra*.

Claim Language	Costa-Requena
1.d. invoking the CPP logic and the	Costa-Requena discloses that mobile station 122 (UE with CPP logic) cooperates with web proxy gateway 512 (CP

Claim Language	Costa-Requena
CP logic to cooperatively negotiate media content delivery between the MS and the MR if one of the MS and MR are not in communication with the UE via a local wireless network; and	logic) to negotiate media content delivery between UPnP devices 114 (MS and MR), as described for limitation 1.b. Costa-Requena also discloses that mobile station 122 may be in communication with MS and MR via networks other than a local wireless network, such as a "3G" network (wide area network), "the Internet" (wide area network), and "home UPnP network." Ex. 1019 at ¶¶ 32, 38.

Regarding limitation 1.d, Costa-Requena's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1019 at ¶¶ 4, 28, 30, 38-40; Mayer-Patel Decl. at ¶ 171. One of skill in the art would have recognized that the disclosed "home UPnP network" may not be a local wireless network and may be wired. Ex. 1019 at ¶¶ 32, 38; Mayer-Patel Decl. at ¶ 171.

Claim Language	Costa-Requena
1.e. once media content delivery is negotiated, controlling a presentation of delivery via the VCR controls on the UE.	Costa-Requena discloses and renders obvious that mobile station 122 (CPP logic on the UE) includes video cassette recorder (VCR) controls to control a presentation of content provided by the MS and rendered by the MR, as described for limitation 1.b. Costa-Requena discloses using mobile station 122 to issue "UPnP commands" to the UPnP devices 114 (MS and MR). Ex. 1019 at ¶ 39.

Regarding limitation 1.e, the disclosed "UPnP commands" may include VCR controls such as "Stop," "Play," "Pause," "Seek," etc. Mayer-Patel Decl. at

¶ 172; *see* claim limitation 1.b in the UPnP Design claim chart, *supra*.

Claim Language	Costa-Requena
2. The method of claim 1, wherein the CPP logic is invoked to negotiate media content delivery between the MS and the MR if the MS and MR are both in communication with the UE via a local wireless network.	Costa-Requena discloses that mobile station 122 (UE with CPP logic) may be invoked to negotiate media content delivery between UPnP devices 114 (MS and MR), as described for limitation 1.b. See also claim 9 (the UE may be in communication with the MS and MR via a local wireless network).

Regarding claim 2, Costa-Requena's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1019 at ¶¶ 4, 28, 30, 38-40; Mayer-Patel Decl. at ¶ 175.

Claim Language	Costa-Requena
3. The method of claim 2, wherein the local wireless network includes at least one a Wi-Fi network, a WiMax network, and a Bluetooth network.	Costa-Requena discloses that mobile station 122 may communicate via local wireless networks such as "Bluetooth, IEEE 802.11 WLAN (or Wi-Fi), [and] IEEE 802.16 WiMAX" networks. Ex. 1019 at ¶ 32.
4. The method of claim 1, wherein the CP logic is invoked to negotiate media	Costa-Requena discloses invoking web proxy gateway 512 (CP logic), which "acts as a Control Point," to negotiate media content delivery between UPnP devices 114 (MS and MR), as described for limitations 1.a and 1.b. *See also* Ex. 1019 at ¶ 39.

Claim Language	Costa-Requena
content delivery between the MS and the MR if neither the MS nor the MR are in communication with the UE via the local wireless network.	Costa-Requena discloses that mobile station 122 (UE) may be in communication with MS and MR via, for example, a wide area wireless network such as a "3G" network or "the Internet." *Id*. at ¶¶ 32, 38.

Regarding claim 4, Costa-Requena's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1019 at ¶¶ 4, 28, 30, 38-40; Mayer-Patel Decl. at ¶ 181. One of skill in the art would have recognized that the disclosed "home UPnP network" may not be a local wireless network and may be wired. Ex. 1019 at ¶¶ 32, 38; Mayer-Patel Decl. at ¶ 181.

Claim Language	Costa-Requena
5. The method of claim 1, wherein the UE is implemented on a handset.	Costa-Requena discloses that mobile station 122 (UE) may be a "mobile phone, … handheld data terminal, personal data assistant (PDA), or other handheld mobile electronic device capable of wireless communication" (handsets). Ex. 1019 at ¶¶ 26, 32.
6. The method of claim 5, wherein the handset comprises a display, and the MR uses the display.	Costa-Requena discloses that mobile station 122 (UE) has "a display 216." Ex. 1019 at ¶ 34, Fig. 2. Costa-Requena also discloses that UPnP devices 114 (including MR) may announce its presence to a user via a "Web page" displayed on the mobile station's display so that the user may select that "specific UPnP device" (uses the display). *Id*. at ¶¶ 38, 40.
7. The method of claim 1, wherein at least one of the MS and the MR is on a	Costa-Requena discloses that UPnP devices 114 (MS and MR) are in communication with Internet Gateway Device 516 (serving node). Ex. 1019 at ¶ 38, Fig. 5; *see also* limitation 1.b.

Claim Language	Costa-Requena
3G network and in communication with the serving node.	Costa-Requena discloses that mobile station 122 may use a "3G" communication protocol. *Id*. at ¶ 32.
8. The method of claim 1, wherein the UE is in communication with the MR via a local wireless network.	See claim 9.
9. The method of claim 1, wherein the UE is in communication with both the MS and the MR via a local wireless network.	Costa-Requena discloses that mobile station 122 may communicate via a local wireless network, such as an "IEEE 802.11 WLAN (or Wi-Fi)" network and may be in communication with UPnP devices such as a media renderer via a local wireless network (UE may be in communication with both the MS and MR via a local wireless network). *Id*. at ¶¶ 32, 37.
10. The method of claim 1, wherein the CP logic negotiates service delivery from the MS, the MS being on a 3G network, the CPP logic in the UE negotiates delivery on the MR, and the CP logic and CPP logic execute synchronization logic to complete the negotiation of delivery from the MS to the MR.	Costa-Requena discloses that web proxy gateway 512 (CP logic) negotiates delivery from UPnP devices 114 (including the MS), as described for limitation 1.b and claim 4. Costa-Requena discloses that that mobile station 122 (CPP logic) negotiates delivery to local UPnP devices 124 (including an MR), as described for limitation 1.b and claim 2. *See also* Ex. 1019 at ¶¶ 28, 29 ("mobile station 122 and the home network gateway 122 each communicate with respective UPnP networks 120, 110 using UPnP commands"), 30, 37 (mobile station 122 communicating with local UPnP devices at the user's friend's home), Fig. 1(showing a UPnP TV (MR)). As described for claim 7, Costa-Requena renders obvious implementing the MS on a 3G network. Costa-Requena discloses that web proxy gateway 512 (CP logic) and mobile station 122 (CPP logic) convert between WS and UPnP protocols, perform encryption based on a key maintained by both the mobile station and web proxy

Claim Language	Costa-Requena
	gateway, and so on (execute synchronization logic in order to complete the negotiation of delivery between an MS and MR). Ex. 1019 at ¶¶ 29, 39-40.
11. The method of claim 1, wherein the UE communicates its network context to the serving node and the serving node informs the UE of the serving node's capabilities for negotiation with devices local to the UE.	Costa-Requena discloses that mobile station 122 (UE) may communicate with Internet Gateway Device 516 (serving node) using networking protocols such as 2G, 3G, Bluetooth, Wi-Fi, and WiMAX, (UE communicating its network context (*e.g.*, its connectivity to a network) to the serving node). Ex. 1019 at ¶¶ 32, 38. Costa-Requena discloses that web proxy gateway 512 (in the serving node) "acts as a Control Point" and provides a "Web page" to mobile station 122 (UE) informing UE of the available UPnP devices 114 (informs the UE of its capabilities for negotiation with devices local to the UE). Ex. 1019 at ¶¶ 37-38, 40. Costa-Requena discloses that the UE may be local to UPnP devices, such as a media renderer. Ex. 1019 at ¶ 37.
12. The method of claim 1, wherein the CP logic is configured to serve multiple unrelated devices running CPP logic.	Costa-Requena discloses that web proxy gateway 512 may serve "mobile stations" (plural), where mobile station 122 contains CPP logic as described for limitation 1.b. Ex. 1019, ¶ 45. Costa-Requena discloses that different mobile stations 122 may be, for example, mobile phones or PDAs (multiple unrelated devices). *Id*. at ¶ 26.
13. The method of claim 12, wherein CPP logic is implemented in a UE resident in a handset and in a remote control device.	Costa-Requena discloses that the UE with CPP logic may be implemented in a handset, as described for claim 5. Costa-Requena discloses mobile station 122 (UE with CPP logic) that may be a "mobile phone, pager, handheld data terminal, personal data assistant (PDA), or other handheld mobile electronic device capable of wireless communication." Ex. 1019 at ¶¶ 26, 32.
14. The method of claim 13, wherein a user uses the CPP logic in the handset when the user is	Costa-Requena discloses using mobile station 122 (CPP logic) when the mobile station 122 is "remotely located" with respect to the UPnP devices 114 (including the MR), as described for limitation 1.b. *See also* Ex. 1019 at ¶¶ 38-39, Fig. 5. Such CPP logic may be incorporated in a handset, as

Claim Language	Costa-Requena
remote from the MR and uses the CPP logic in the remote control device when the user is local to the MR.	described for claim 13. Costa-Requena renders obvious that mobile station 122 (CPP logic) may be embodied in a remote control device, as described for claim 13. Costa-Requena discloses that mobile station 122 (CPP logic that may be in a remote control device) negotiates with its local UPnP devices, such as local UPnP devices 124 (including an MR). Ex. 1019 at ¶¶ 28, 29 ("mobile station 122 and the home network gateway 122 each communicate with respective UPnP networks 120, 110 using UPnP commands"), 30, 37 (mobile station 122 communicating with local UPnP devices at the user's friend's home), Fig. 1(showing a UPnP TV(MR)).
15. The method of claim 1, wherein, if one of the MS and MR are remote from the UE, the CPP logic provides information about invoked VCR controls to the CP logic on the serving node to allow the CP logic to control the remote MS or MR.	Costa-Requena renders obvious invoking VCR controls to control the MS or MR, as described for limitation 1.e. Costa-Requena discloses using mobile station 122 (CPP logic) to control UPnP devices 114 (MS and MR) via web proxy gateway 512 (serving node with CP logic) when "remotely located" from those devices, as described for limitation 1.b. Ex. 1019 at ¶ 38.

Regarding claim 15, mobile station 122 (CPP logic) would provide information at least about which VCR controls are invoked to the web proxy gateway 512 (CP logic) to allow it to control the remote MS or MR. Mayer-Patel Decl. at ¶ 205.

Claim Language	Costa-Requena

Claim Language	Costa-Requena
16. The method of claim 1, wherein the MS and the MR are in a digital home network.	Costa-Requena discloses that UPnP devices 114 (MS and MR) may be in "home UPnP network 110" (a digital home network). Ex. 1019 at ¶ 38.
17. The method of claim 1, wherein the UE determines that it is local to at least one of the MS and the MR by using Universal Plug and Play (UPnP) protocols.	Costa-Requena discloses that mobile station 122 (UE) may use UPnP to communicate with a "local media server" and/or a local media renderer when, for example, visiting a friend's home. Ex. 1019 at ¶ 37; *see also id*. at ¶ 30. Costa-Requena discloses that the mobile station 122 does so by using "a UPnP command … requesting information about the other devices in the network," which results in the mobile station 122 "establish[ing] communication with the devices in the [local] network." *Id*. at ¶ 37. The mobile station 122 (UE) itself may use the UPnP protocol. *Id*. at ¶ 39.
18. The method of claim 1, wherein at least one of the MS and MR announce their presence to the UE using at least one of UPnP protocols, Jini technology, RFID, and Bluetooth.	Costa-Requena discloses that the MS and MR are UPnP devices. Ex. 1019 at ¶¶ 26, 30. Costa-Requena discloses that web proxy gateway 512 relays any presence announcements from UPnP devices 114 to mobile station 122 (UE) at least in the form of a web page. Ex. 1019 at ¶¶ 38, 40.

The combination of UPnP Design and Costa-Requena renders obvious claims 20-33 for the same reasons, and the additional reasons below.

Claim Language	Costa-Requena
20.pre. A method of controlling and delivering media content from a media server (MS) to a media renderer (MR) utilizing a wide area network for control, where a user endpoint (UE) is provisioned with control point proxy (CPP) logic that includes (i) logic to negotiate media content delivery with at least one of the MS and the MR,	See limitations 1.pre and 1.b.

Claim Language	Costa-Requena
(ii) logic to cooperate with network control point (CP) logic to negotiate media content delivery between the MS and the MR, and (iii) video play controls to control a presentation of content provided by the MS and rendered by the MR, wherein the CPP logic resides in the UE and serves as a first proxy, comprising the acts of:	
20.a. provisioning a serving node in the wide area network with control point (CP) logic that includes logic to negotiate media content delivery with at least one of the MS and the MR, wherein the CP logic, MS, and MR resides outside of a user endpoint (UE) and the CP logic resides in the signaling domain and serves as a second proxy;	See limitation 1.a.
20.b. in response to a media content delivery request, the wide area network determining a network context of the UE and a network connectivity of the MS and MR;	See limitation 1.c.
20.c. invoking the CPP logic and the CP logic to cooperatively negotiate media content delivery between the MS and the MR if one of the MS and MR are not in communication with the UE via a local wireless network; and	See limitation 1.d.
20.d. once media content delivery is negotiated, receiving video play controls from the UE.	See limitation 1.e.
Claim 21.	See claim 2.
Claim 22.	See claim 3.
Claim 23.	See claim 4.
Claim 24.	See claim 16.
Claim 25.	See claim 18.
27.pre. A user endpoint (UE) for communication with a serving node in a network, the serving node having control point (CP) logic that includes logic to negotiate media content delivery with at least one of a media server (MS) and a media renderer (MR), wherein the CP logic, MS, and MR reside outside of the UE and the CP logic resides in the signaling domain and serves as a first proxy, the UE comprising:	See limitations 1.pre and 1.a.
27.a. a transceiver to communicate with the network, the MS and the MR; and	See limitation 1.b. Costa-Requena also discloses that mobile

Claim Language	Costa-Requena
	station 122 (UE) includes "a transmitter 204" and "a receiver 206" for communication with the network, the MS, and the MR. Ex. 1019 at ¶¶ 26, 32.
27.b. a computer readable medium comprising: personal agent logic configured to determine a network context of the UE; and	See limitation 1.c.
27.c. control point proxy logic configured to: negotiate media content delivery with at least one of the MS and the MR,	See limitation 1.b.
27.d. cooperate with the serving node CP logic to negotiate media content delivery between the MS and the MR, and	See limitation 1.b.
27.e. once media content delivery is negotiated, control a presentation of media content provided by the MS and rendered by the MR with video play controls.	See limitation 1.e.
Claim 28.	See claim 6.
Claim 29.	See claim 9.
Claim 30.	See claim 3.
Claim 31.	See claim 17.
Claim 32.	See claim 11.
Claim 33.	See claim 5.

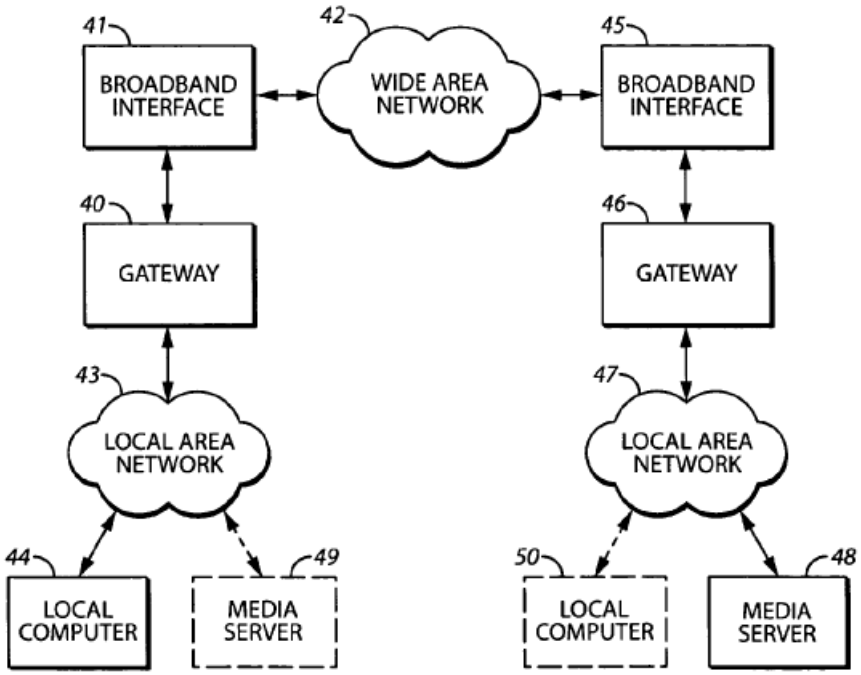
I. Ground 3: Claims 1-33 Are Obvious Under 35 U.S.C. § 103(a) (pre-AIA) In Light Of UPnP Design And Stewart.

Claims 1-33 are obvious under 35 U.S.C. § 103(a) (pre-AIA) in light of UPnP Design, discussed above, and U.S. Patent Application Publication No. 2006/0112192 to Stewart, et al. ("Stewart"). Ex. 1020. Stewart is prior art to the '412 patent under at least 35 U.S.C. § 102(e) (pre-AIA) because it has a U.S. filing

date of Nov. 24, 2004, which pre-dates the earliest possible priority date on the face of the '412 patent (Jun. 24, 2005).

To the extent that UPnP Design does not disclose any of the limitations of claims 1-33 for the reasons discussed above in Section III.G, UPnP Design and Stewart render such limitations obvious for the reasons discussed below. Citations to UPnP Design are not repeated in the chart below for brevity.

Stewart discloses interaction and cooperation between two UPnP local area networks across a wide area network:



Ex. 1020 at Fig. 4. As described in the chart below, Stewart discloses a UPnP "first enabling device" (UE with CPP logic) that cooperates with a UPnP "remote local area network control point" (CP logic) to negotiate media content delivery between, for example, UPnP "media server 48" (media server) and UPnP "device

A" (media renderer) across wide area network 42. See claim chart *infra*. Stewart discloses that such media may include video. Ex. 1020 at ¶ 3.

Stewart incorporates by reference "the full contents" of the UPnP Forum document titled "UPnP Device Architecture 1.0 version 1.0.1," which is Exhibit 1021. Ex. 1020 at ¶ 4.

It would have been obvious to one of skill in the art to combine the disclosures of UPnP Design and Stewart, and there would have been motivation to combine them, at least because: 1) both describe UPnP systems; 2) both describe extending the accessibility and operability of UPnP networks beyond a local network or single sub-network and/or describe having multiple UPnP networks communicate with each other; and 3) a goal of UPnP was to have UPnP devices automatically and universally interact with each other, as discussed by the references themselves. Mayer-Patel Decl. at ¶ 241. Moreover, in implementing the UPnP architecture described in Stewart, a person of skill in the art would have been guided by the disclosure of UPnP Design, and relied upon the UPnP specifications contained therein, in order to implement the details of such a UPnP architecture. *Id*. Such specifications explain, for example, which services are required and which services are optional in a UPnP MediaServer and UPnP MediaRenderer, and the expected behavior of such services. *See* Exs. 1011-15. As

such, the combination of these disclosures would not go beyond combining known elements to yield predictable results. Mayer-Patel Decl. at ¶ 241.

Claim Language	Stewart
1. A method of controlling and delivering media content from a media server (MS) to a media renderer (MR) utilizing a wide area network for control, comprising the acts of:	Stewart discloses "shar[ing] various kinds of digital content [such as] video" between "such devices as a media server and/or media renderer" (controlling and delivering media content). Ex. 1020 at ¶¶ 3-4. Stewart discloses "media server 48" (an exemplary media server), which is "Universal Plug and Play-compatible," a "media … receiver" for sharing "video" (media renderer), and a "second local computer 50" (media renderer). Ex. 1020 at ¶¶ 3, 29, 31. Stewart also discloses "Universal Plug and Play devices … first device A (an exemplary media renderer) and a second device B," and discloses that can be "media servers and receivers." *Id*. at ¶¶ 33, 16. Stewart discloses that UPnP devices in a first local area network 43 can communicate with and "engage in all ordinary Universal Plug and Play activities" with UPnP devices in a second local area network 47 using wide area network 42 (utilizing a wide area network for control). Ex. 1020 at ¶¶ 30, 32, Fig. 4.
1.a. provisioning a serving node in the wide area network with control point (CP) logic that includes logic to negotiate media content delivery with at least one of the MS and the MR, wherein the CP logic, MS, and MR resides outside of a user endpoint (UE)	Stewart discloses a "remote enabling device" (serving node) that acts as a "remote local area network control point" (CP logic) (referred to herein as the "remote control point"). Ex. 1020 at ¶¶ 32, 34, 36. The remote control point may take the form of the "second external network gateway 46." *Id*. at ¶¶ 30-31. The remote control point is accessible via "wide area network 42" (in the wide area network). *Id*. at ¶ 28, Fig. 4. Stewart discloses that the remote control point (CP logic) is a UPnP "control point" and discloses that UPnP activities include "shar[ing] various kinds of digital content [such as] video" between "such devices as a media server and/or media renderer" (negotiating media content between an MS

Claim Language	Stewart
and the CP logic resides in the signaling domain and serves as a first proxy;	and MR). Ex. 1020 at ¶¶ 3-4, 36. Stewart discloses that the remote control point (CP logic), as a UPnP control point, exchanges UPnP control messages with UPnP devices and because it passes "Universal Plug and Play messages" between devices in local area networks 43 and 47 (resides in the signaling domain). *E.g.*, Ex. 1020 at ¶¶ 30, 36, 39; Ex. 1010 at 9-10 (UPnP control point description). Stewart discloses that the remote control point (CP logic) provides "proxy-like/masquerading functionality" by enabling devices local to network 47 to exchange UPnP messages with devices local to network 43, and vice versa (serves as a first proxy). *Id*. at ¶¶ 31-33, 39, Fig. 4. Stewart discloses a "first enabling device" (UE), which may be, for example, "local computer 44." Ex. 1020 at ¶¶ 30-31, 33. Stewart discloses that the remote control point (CP logic), media server 48 (media server), and device A (media renderer) reside outside of the first enabling device (UE) when the first enabling device is, for example, local computer 44 (an exemplary UE). Ex. 1020 at ¶¶ 31, 33, Fig. 4.

Regarding limitations 1.a, because using UPnP to share video among UPnP devices requires that a control point negotiate delivery between the MS and MR, the remote control point (CP logic) of Stewart includes logic to negotiate media content delivery with at least one of the MS and the MR. Mayer-Patel Decl. at ¶ 251; Ex. 1010 at 4-6, 9-10.

Claim Language	Stewart
1.b. provisioning the UE of the wide	Stewart discloses that the first enabling device (UE with CPP logic) may serve as an "enabling platform" for UPnP

Claim Language	Stewart
area network with control point proxy (CPP) logic that includes (i) logic to negotiate media content delivery with at least one of the MS and the MR, (ii) logic to cooperate with CP logic to negotiate media content delivery between the MS and the MR, and (iii) video cassette recorder (VCR) controls to control a presentation of content provided by the MS and rendered by the MR, wherein the CPP logic resides in the UE and serves as a second proxy;	functionality and can "act as a [UPnP] control point." Ex. 1020 at ¶¶ 30-31, 33. Stewart also discloses that local computer 44 (an exemplary UE with CPP logic), which may be the first enabling device (UE with CPP logic), "engage[s] in all ordinary Universal Plug and Play activities." *Id*. at ¶¶ 30-31. Stewart also discloses that UPnP activities include "shar[ing] various kinds of digital content [such as] video" between "such devices as a media server and/or media renderer" (negotiating media content between an MS and MR). Ex. 1020 at ¶¶ 3-4, 36. Stewart discloses that the first enabling device (UE with CPP logic) provides "proxy-like/masquerading functionality" by enabling devices local to network 47 to exchange UPnP messages with devices local to network 43, and vice versa (serves as a second proxy). *Id*. at ¶¶ 31-33, Fig. 4. Stewart disclose that the first enabling device (UE) communicates over and is accessible via "wide area network" 42 (UE of a wide area network). Ex. 1020 at ¶ 28, Fig. 4. Stewart discloses that the first enabling device (UE with CPP logic) exchanges UPnP messages with the remote control point (cooperates with the CP logic) to enable such communication between networks 43 and 47. Ex. 1020 at ¶¶ 32, 39.

Regarding limitation 1.b, because using UPnP to share video among UPnP devices requires that a control point negotiate delivery between the MS and MR, the first enabling device (CPP logic) of Stewart includes logic to negotiate media content delivery with at least one of the MS and the MR. Mayer-Patel Decl. at ¶ 255; Ex. 1010 at 4-6, 9-10.

Claim Language	Stewart
1.c. in response to a media content delivery request, determining a network context of the UE and a network connectivity of the MS and MR;	Stewart discloses that the first enabling device (UE) negotiates delivery of media content between media server 48 and device A (MS and MR) using the UPnP protocol, as discussed above for limitation 1.b. See also Ex. 1020 at ¶¶ 30, 32.

Regarding limitation 1.c, in negotiating the delivery of media content, the first enabling device necessarily determines its network context (*e.g.*, connectivity to a network) and the network connectivity of the MS and MR (*e.g.*, their connectivity to a network). Mayer-Patel Decl. at ¶ 260; *see* limitation 1.c in the UPnP Design claim chart, *supra*.

Claim Language	Stewart
1.d. invoking the CPP logic and the CP logic to cooperatively negotiate media content delivery between the MS and the MR if one of the MS and MR are not in communication with the UE via a local wireless network; and	Stewart discloses that the first enabling device (UE with CPP logic) cooperates with the remote control point (CP logic) negotiation of media content delivery between an MS and MR, as described for limitation 1.b. Stewart discloses that wide area network 42 may be "the Internet" (a wired network). Ex. 1020 at ¶ 28.

Regarding limitation 1.d, Stewart's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the

local wireless network or other type of network. Ex. 1020 at ¶¶ 30-33; Mayer-Patel Decl. at ¶ 262. Local area networks 43 and 47 may be wired because UPnP networks may be "wired" and "UPnP technology can run on any medium for which there is an IP stack." Mayer-Patel Decl. at ¶ 262; Ex. 1008 at 5-6.

Claim Language	Stewart
1.e. once media content delivery is negotiated, controlling a presentation of delivery via the VCR controls on the UE.	See limitation 1.e in the UPnP Design claim chart, *supra*.

Regarding limitation 1.e, because the first enabling device "can act as a control point," it may invoke VCR controls to control the presentation of content. Ex. 1020 at ¶ 33; Ex. 1008 at 370, 374 ("Play," "Stop," etc.); Ex. 1010 at 10.

Claim Language	Stewart
4. The method of claim 1, wherein the CP logic is invoked to negotiate media content delivery between the MS and the MR if neither the MS nor the MR are in communication with the UE via the local wireless network.	Stewart discloses invoking remote control point (CP logic) in order to negotiate media content delivery between the MS and MR, as described in connection with limitations 1.a and 1.b, incorporated here by reference. See also Ex. 1020 at ¶¶ 30, 36. Stewart discloses that remote control point (CP logic) is a control point and "engage[s] in all ordinary Universal Plug and Play activities" (may be invoked directly by a user or by the first enabling device for such negotiation). *Id.*; *see* Ex. 1013 at 3-6.

Regarding claim 4, Stewart's disclosure of delivery negotiation is agnostic as to whether the MS and MR are in communication with the UE via the local wireless network or other type of network. Ex. 1020 at ¶¶ 30-33; Mayer-Patel Decl. at ¶ 267. Local area networks 43 and 47 may be wired because UPnP networks may be "wired" and "UPnP technology can run on any medium for which there is an IP stack." Mayer-Patel Decl. at ¶ 267; Ex. 1008 at 5-6.

Claim Language	Stewart
5. The method of claim 1, wherein the UE is implemented on a handset.	Stewart discloses that first enabling device (UE) is an "enabling platform" for UPnP where such UPnP platforms may be "many and varied" and include "mobile wireless devices" (handset). Ex. 1020 at ¶ 16; Ex. 1021 (incorporated by reference to Stewart at ¶ 4) at 14.
11. The method of claim 1, wherein the UE communicates its network context to the serving node and the serving node informs the UE of the serving node's capabilities for negotiation with devices local to the UE.	Stewart discloses that first enabling device (UE) informs remote control point (serving node) of the IP addresses and applicable port numbers of its local devices (its network context, *e.g.*, connectivity to a network). Ex. 1020 at ¶¶ 33-34. Stewart discloses that remote control point (serving node) informs first enabling device (UE) of UPnP devices that is has discovered, such as media server 48, including any such devices that might be local to the UE. Ex. 1020 at ¶¶ 29-30, Fig. 4 (showing surrogate media server 49). In addition, Stewart discloses that UPnP devices newly added to a network may advertise their services to control points, and the remote control point (serving node) would relay such messages to the first enabling device (UE). Ex. 1021 (incorporated by reference to Stewart at ¶ 4) at 10 (A UPnP device may "advertise its services to control points on the network."), 12; Ex. 1020 at ¶¶ 33-35, 39.
12. The method of claim 1, wherein the	Stewart discloses remote control point (CP logic) serves the first enabling device (CPP logic). *E.g.*, Ex. 1020 at ¶¶ 30,

Claim Language	Stewart
CP logic is configured to serve multiple unrelated devices running CPP logic.	38. Stewart discloses that the "proxy-like/masquerading functionality" of the first enabling device (CPP logic) "can be distributed over a plurality of enabling platforms (devices)" and that UPnP platforms "can be many and varied" (multiple unrelated devices running CPP logic). Ex. 1020 at ¶¶ 16, 31.
16. The method of claim 1, wherein the MS and the MR are in a digital home network.	Stewart discloses using a "media server and … receiver" (MS and MR) "to share … video … at various locations throughout a given residence" using UPnP on a local area network (a digital home network). Ex. 1020 at ¶¶ 3-4, 16.
17. The method of claim 1, wherein the UE determines that it is local to at least one of the MS and the MR by using Universal Plug and Play (UPnP) protocols.	Stewart discloses that the first enabling device (UE) uses the UPnP "M_SEARCH message to identify Universal Plug and Play devices" "within its home local area network." Ex. 1020 at ¶¶ 29, 32-33; *see also* Ex. 1008 at 82 ("M-SEARCH" discovery request). Stewart discloses that UPnP device A (MR) is local to the first enabling device. *Id*. at ¶ 33.

The combination of UPnP Design and Stewart renders obvious claims 20-33 for the same reasons.

Claim Language	Stewart
20.pre. A method of controlling and delivering media content from a media server (MS) to a media renderer (MR) utilizing a wide area network for control, where a user endpoint (UE) is provisioned with control point proxy (CPP) logic that includes (i) logic to negotiate media content delivery with at least one of the MS and the MR, (ii) logic to cooperate with network control point (CP) logic to negotiate media content delivery between the MS and the MR, and (iii) video play controls to control a presentation of content provided by the MS and rendered by the MR, wherein the CPP logic resides in the UE and serves as a first proxy, comprising the acts of:	See limitations 1.pre and 1.b.

Claim Language	Stewart
20.a. provisioning a serving node in the wide area network with control point (CP) logic that includes logic to negotiate media content delivery with at least one of the MS and the MR, wherein the CP logic, MS, and MR resides outside of a user endpoint (UE) and the CP logic resides in the signaling domain and serves as a second proxy;	See limitation 1.a.
20.b. in response to a media content delivery request, the wide area network determining a network context of the UE and a network connectivity of the MS and MR;	See limitation 1.c.
20.c. invoking the CPP logic and the CP logic to cooperatively negotiate media content delivery between the MS and the MR if one of the MS and MR are not in communication with the UE via a local wireless network; and	See limitation 1.d.
20.d. once media content delivery is negotiated, receiving video play controls from the UE.	See limitation 1.e.
Claim 23.	See claim 4.
Claim 24.	See claim 16.
27.pre. A user endpoint (UE) for communication with a serving node in a network, the serving node having control point (CP) logic that includes logic to negotiate media content delivery with at least one of a media server (MS) and a media renderer (MR), wherein the CP logic, MS, and MR reside outside of the UE and the CP logic resides in the signaling domain and serves as a first proxy, the UE comprising:	See limitations 1.pre and 1.a.
27.a. a transceiver to communicate with the network, the MS and the MR; and	See limitation 1.b.

Regarding limitation 27.a, the first enabling device (UE) necessarily has a transceiver for the communication described in limitation 1.b. Mayer-Patel Decl. at ¶ 288.

Claim Language	Stewart
27.b. a computer readable medium comprising: personal	See limitation 1.c.

Claim Language	Stewart
agent logic configured to determine a network context of the UE; and	
27.c. control point proxy logic configured to: negotiate media content delivery with at least one of the MS and the MR,	See limitation 1.b.
27.d. cooperate with the serving node CP logic to negotiate media content delivery between the MS and the MR, and	See limitation 1.b.
27.e. once media content delivery is negotiated, control a presentation of media content provided by the MS and rendered by the MR with video play controls.	See limitation 1.e.
Claim 31.	See claim 17.
Claim 32.	See claim 11.
Claim 33.	See claim 5.

IV. CONCLUSION

For the foregoing reasons, Petitioner requests that the Board institute trial and cancel claims 1-33. In addition, Petitioner has presented only a limited number of grounds, yet in doing so has demonstrated how various prior art references address the claims differently. For example, UPnP Design discloses the minutia of the UPnP AV Architecture and a method of controlling remote UPnP devices using Device Relays. Costa-Requena discloses mobile station 122 that uses protocols such as Bluetooth, Wi-Fi, and WiMax to cooperate with web proxy gateway 512, which "acts as a Control Point," to stream video between UPnP devices. Stewart discloses delivering media between UPnP devices and across wide area network 42 using a remote control point and a first enabling device in a home local area network that masquerades as multiple local UPnP devices corresponding to devices on the remote UPnP network.

The limited grounds presented in this petition do not impede "the just, speedy, and inexpensive resolution of [this] proceeding," as required by 37 C.F.R. § 42.1(b). Because Petitioner has already limited its petition to just a few divergent grounds, Petitioner respectfully requests that the Board institute rejections on all grounds presented in this petition in order to avoid prejudicing Petitioner. If the Board nonetheless institutes fewer than the limited number of presented grounds, Petitioner respectfully requests that the Board institute at least ground 2 (UPnP Design and Costa-Requena) and ground 3 (UPnP Design and Stewart).

Dated: September 29, 2014.

Respectfully Submitted,

/James M. Heintz/

James M. Heintz
Reg. No. 41,828
DLA Piper LLP (US)
11911 Freedom Drive, Suite 300
Reston, VA 20190
Apple-Aylus-IPR@dlapiper.com
Phone: 703-773-4148
Fax: 703-773-5200

Robert Buergi
Reg. No. 58,125
DLA Piper LLP (US)
2000 University Ave
East Palo Alto, CA 94303
robert.buergi@dlapiper.com
Phone: 650-833-2407
Fax: 650-687-1144

Attorneys for Petitioner Apple Inc.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Petition for Inter Partes Review and all Exhibits and other documents filed together with the petition were served on September 29, 2014, via United Parcel Service, directed to the attorneys of record for the patent at the following address:

Mayer & Williams P.C.
928 Mountain Avenue, Second Floor
Mountainside, N.J. 07092

Dated: September 29, 2014

Respectfully Submitted,

/James M. Heintz/

James M. Heintz
Reg. No. 41,828
DLA Piper LLP (US)
11911 Freedom Drive, Suite 300
Reston, VA 20190
Apple-Aylus-IPR@dlapiper.com
Phone: 703-773-4148
Fax: 703-773-5200

Robert Buergi
Reg. No. 58,125
DLA Piper LLP (US)
2000 University Ave
East Palo Alto, CA 94303
robert.buergi@dlapiper.com
Phone: 650-833-2407
Fax: 650-687-1144

Attorneys for Petitioner Apple Inc.